

Tasmanian Year Book



1969

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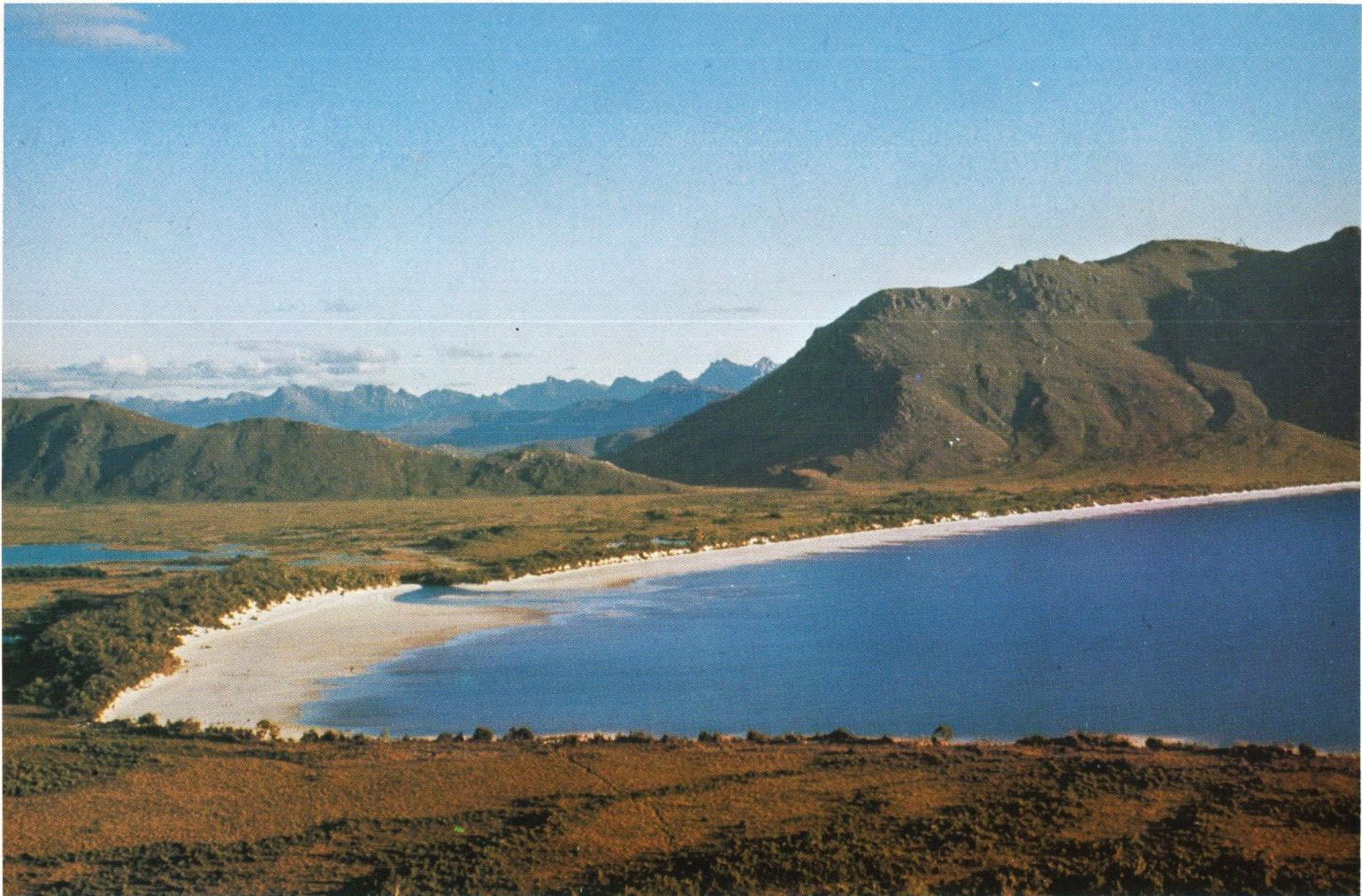
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TASMANIAN YEAR BOOK

No. 3 — 1969



Lake Pedder at the head of the Serpentine River with the Frankland Range in background.

Photo: H. Moore.

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and

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Commonwealth Bureau of Census and Statistics

Tasmanian Office, Hobart

1969

By Authority:
D. E. WILKINSON, Government Printer, Tasmania.

Registered at the General Post Office, Hobart, for transmission
through the post as a book.

Wholly set up and printed in Australia.

PREFACE

This is the third issue of the *Tasmanian Year Book*, the first appearing in 1967.

The Year Book is designed to present a comprehensive statistical and descriptive account of the physical environment and of the social, demographic, economic, etc. structure of the State, with particular emphasis on change and development in more recent years. The first two Year Books necessarily featured a great deal of historical material but a start has been made in this issue on reducing the historical content and on expanding the contemporary record.

As far as possible, changes which have occurred in 1968 have been embodied in each chapter, but there is a limit set by the Printer who must eventually have a final text. Accordingly a new section, Appendix C, has been added to record important changes, events, etc. which could not be incorporated as amendments in the appropriate chapters.

More detailed statistics relating to matters treated generally in the Year Book are available in the various Bulletins and other publications issued by the Bureau. Attention is directed to Appendix A where the various publications of the Bureau are described.

My staff and I have been gratified by the favourable reception accorded the first two Year Books but there is always room for improvement; any user's suggestions for new topics, new treatment, etc. will be given careful consideration.

I gratefully acknowledge the valuable assistance given by officers of the various Commonwealth and State Departments and by others who have contributed information, often at considerable trouble. Especially would I like to thank Mr W. E. Kallend, B.A., of my own staff, who has again acted as editor. The help of the Surveyor-General in providing maps has been greatly appreciated and thanks are also due to those supplying photographs. Finally I should express my appreciation to the Government Printer and his staff for their enthusiasm and co-operation in printing this volume.

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and
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Commonwealth Bureau of Census and Statistics,
HOBART January 1969

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AUSTRALIAN DECIMAL CURRENCY DOLLAR (\$)/CENT (c) SYSTEM

Values are expressed in dollars (\$) and/or cents (c) Australian unless another currency is specifically stated. Sterling currency is used in a few historical contexts.

ROUNDING OF FIGURES

Where figures in this volume have been rounded, any discrepancies between the totals shown and the sums of the component items are due to rounding.

LOCAL NAMES OF CERTAIN REGIONS

Tasmanians describe certain regions in a manner confusing to strangers; nevertheless this book employs local usage in most contexts. The chief peculiarities are:

North-West Coast: The *north* coast from approximately Port Sorell west to Cape Grim is called the *north-west* coast.

North-East Coast: The *north* coast from approximately Low Head east to Cape Portland is called the *north-east* coast. With most of the north coast referred to as either 'north-west' or 'north-east', the term 'north' is rarely applied to this coastal region.

West Coast: The Tasmanian west coast may refer only to the mining settlements of Queenstown, Rosebery, etc. In other contexts, the user may be thinking of inland mountains and rainforests, rather than of a coastline.

Midlands: The true midlands are probably the Central Plateau but the Tasmanian term means the rural area east of the Plateau, and lying along the axis of the Hobart-Launceston road.

Chapter 1

HISTORY AND CHRONOLOGY

DISCOVERY

The Period of Dutch Exploration

In the authors of antiquity, references are found to a land called 'Terra Australis' but it is the Dutch who are credited with the discovery of both Australia and Tasmania. The Dutch, with their trading posts in Java, represented the closest extension of European sea power near the north of the unknown continent and its discovery, either by accident or design, became inevitable.

In 1606, Captain William Jansz in the *Duyfken* was sent from Java to explore the islands of New Guinea and, crossing Torres Straits unawares, coasted along the west of Cape York Peninsula; this was the first of a series of voyages by Dutch captains who, in the next thirty years, acquired some knowledge of the western shores of the unknown land. Not all voyages were undertaken with the aim of exploration—Dirk Hartog's long journey along the western shore of Australia in 1616 resulted from his sailing too far east on the route from the Cape of Good Hope to Java. Some later captains on the same route even regarded the western Australian coast as a suitable landfall before turning north for Java—a commentary on the difficulty of navigation when longitude had to be established by dead reckoning.

In 1642, the Dutch East India Company despatched from Java an expedition of two vessels, the *Heemskirk* and *Zeehan*, under Captain Abel Tasman, with instructions to investigate the extent of the unknown land thought to exist between New Guinea and the coast of western Australia. One immediate aim of the Governor General, Anthony Van Diemen, was to find a southern route from Java to Chile so that ships of the company could either trade or plunder along the Pacific coast of South America; a question to be resolved was whether any land mass extending far south blocked such a route.

The original plan was to sail west to Mauritius, to run down to 52° or 54° South latitude and then to proceed east; assuming no land was discovered, it was then intended to turn north in either the longitude of eastern New Guinea or possibly of the Solomons. If Tasman had followed this plan in every detail, he might have discovered the east coast of Australia, anticipating Cook's work by more than a century. As it turned out, the extreme southern latitudes were too hostile and accordingly Tasman was sailing east in latitude 42° South when he sighted the mountainous west coast of Tasmania on 24 November 1642.

The Dutch navigator skirted the south coast and made a landing on the east coast for water in Blackman Bay (from an anchorage south of Marion Bay). He then sailed north to St Patricks Head, crossed the Tasman sea and discovered New Zealand, returning to Java by a route to the north of New Guinea. Tasman had thus performed the feat of circumnavigating Australia in a single voyage without once sighting the Australian continent.

In honour of the Governor General of the Indies, he named the first discovery Van Diemen's Land, imagining it to be the most southern extension of the Australian continent, an illusion that was only completely dispelled by Bass and Flinders when they circumnavigated the island in 1798. The Dutch did not follow up the discoveries of Tasman or their other explorers because they were interested in establishing trading posts only among peoples with a higher degree of civilisation than the natives of Tasmania or Australia appeared to possess. (Tasman's crew saw no natives in Tasmania but inferred their existence from sounds, cuts in trees and the smoke of fires.)

The Period of British and French Exploration

One hundred and thirty years passed before Tasmania was visited again, this time by the French navigator Marion du Fresne in 1772; he virtually repeated Tasman's original landfall, skirted the south coast and came to anchor in the bay that bears his name (Marion). His visit is memorable for the first contact between Europeans and Tasmanians and for the slaying of the first native by gunfire. Du Fresne himself was killed by Maoris in New Zealand on the same voyage.

A year later, Captain Tobias Furneaux in the *Adventure* became separated from Captain Cook in the *Resolution* on the route to New Zealand, and made for Tasmania to obtain water. He eventually anchored off Bruny Island in Adventure Bay but mistakenly believed himself to be in the area of Tasman's original landing which was at least forty five miles to the north-east. From this original error sprang a confusion in nomenclature which persists to this day (e.g. Frederick Henry Bay, first named in Tasman's record, appears on maps in an area that Tasman did not even see). Furneaux then sought to investigate the possibility of a strait separating Tasmania from the continent recently explored by Cook but shoals in the islands bearing his name (Furneaux Group) caused him to desist and make for New Zealand.

In 1777, Cook, on his third voyage, used the Adventure Bay anchorage without detecting Furneaux's navigational errors.

The settlement at Port Jackson in N.S.W. in 1788 put Tasmania on a major sailing route, the first fleet passing south of the island on its way. To have sailed north of the island would have invited shipwreck on the Australian 'mainland' of which Tasmania was then believed to be part. In the same year, Captain William Bligh put in to Adventure Bay with the *Bounty* on his way to Tahiti and to the famous mutiny; he had been on Bruny Island before as Cook's sailing master.

Captain Cox of the *Mercury* anchored in the bay known as Cox Bight in 1789, charted some of the south coast and explored the strait between Maria Island and the east coast.

The next visitor (1792) was Admiral Bruny D'Entrecasteaux commanding *Recherche* and *Esperance* and searching for La Perouse who had not been heard of since 1788 when he sailed from Botany Bay. The Admiral made up from the south, hoping to anchor in Adventure Bay, but a navigational error put his ships too far west with the happy result that he discovered the magnificent channel separating Bruny Island from the Tasmanian mainland, and was the first to sail up the Derwent River. Leaving Tasmania, the expedition sailed as far west as Cape Leeuwin in western Australia when it became imperative to take on water. It is an indication of the lack of knowledge then available that D'Entrecasteaux had to return to Adventure Bay to fill his casks. In the same year, Bligh put in to Adventure Bay on his way to obtain breadfruit trees in the Pacific for transplanting in the West Indies.

The year 1794 was notable for the visit of Commodore John Hayes who had sailed from India with the *Duke of Clarence* and *Duchess*; he explored the Derwent as far as Mt Direction and named Risdon, later to be the site of the first settlement.

Tasmania an Island

Two voyages now followed which established that Tasmania was an island. Surgeon George Bass in a whaleboat left Port Jackson in 1797, rounded Wilsons Promontory and discovered Western Port. The nature of tides and swells encountered told Bass that here was no bay but rather a strait of considerable magnitude. Lieutenant Flinders held a contrary opinion, however, thinking that a land-bridge was necessary to explain the presence of natives in Tasmania. In 1798, Bass and Flinders were given the sloop *Norfolk* to decide the question for all time and they circumnavigated the island, commencing on a westerly course along the north coast where they discovered the Tamar estuary.

Fear of the French

In the original annexation of Australian territory by Cook in 1770, Tasmania was excluded since the southern limit was proclaimed as 38° South latitude. Formal possession of Tasmania had been taken by Governor Phillip on 26 January 1788, when he read his commission to the people of the First Fleet at Sydney Cove. Now that it was established that Tasmania was an island, the authorities both in London and Sydney felt that some steps should be taken to block the French from making any claims to possession. The urgency of doing this was underlined by the arrival in D'Entrecasteaux channel of Admiral Baudin with the *Geographe* and *Naturaliste* in 1802. The expedition's navigator, Freycinet, charted Tasman and Forestier peninsulas and correctly identified the Frederick Henry Bay of the Dutch era. The expedition then called at Port Jackson before sailing south into Bass Strait where it was intercepted at King Island by Lieutenant Robbins in the *Cumberland*. Announcing his intention boldly to the French Admiral, the Lieutenant then disembarked his small company and formally annexed the island in the name of King George III. Governor King at Port Jackson who gave Robbins his instructions was not satisfied that merely formal acts of annexation would block the French indefinitely and decided that permanent settlements were required if British sovereignty were to be retained. To this decision can be attributed the settlement at Risdon (1803) and the Hobart and Port Dalrymple settlements of 1804.

Geography of the Original Landing

The State map published by the Tasmanian Lands and Surveys Department (1:250,000) makes easy the recognition of Tasman's landings on the east coast. His anchorage was near Visscher Island while the first landing was made by longboats which passed through the narrows into Blackman Bay. The second landing occurred in the south-east of North Bay where a lagoon proved to be too brackish for filling water casks.

The last landing was made near Tasman Bay where the navigator had hoped to plant the flag of his Prince and take formal possession of the new land. The surf being too rough to get the longboat ashore, the carpenter swam through the waves, planted the flag and then fought his way back to the longboat.

SETTLEMENT**The First Settlement at Risdon (1803)**

It will be observed that the original explorers of the island (including the French) had very largely concentrated their attention on the south-east and, in particular, on the sea approaches to the Derwent. Faced with the necessity for establishing a settlement to assert British sovereignty, Governor King had a number of possible sites to consider, including King Island, Port Phillip and Port Dalrymple (the Tamar Estuary). His eventual choice was the area of the Derwent and he reported his intention to the Admiralty as follows:

'My reasons for making this settlement are the necessity there appears of preventing the French gaining a footing on the east side of these islands; to divide the convicts; to secure another place for obtaining timber with any other natural productions that may be discovered and found useful; the advantages that may be expected by raising grain; and to promote the seal fishery.'

Commissioned to make the Derwent settlement, Lieutenant John Bowen sailed from Sydney with the *Albion* and *Lady Nelson*; the two vessels became separated in a gale but both were at anchor at Risdon by 11 September 1803 when Bowen went ashore. The slenderness of Governor King's resources is apparent from the fact that the settlers—free, convict and military—only numbered 49 and that the *Albion* was a British whaler under temporary charter (she caught three sperm whales on the voyage while becalmed).

The responsibility for the choice of the Risdon site attaches ultimately to Bass who had made detailed investigations of the Derwent in 1798 from the *Norfolk*. He had reported as follows: 'The land at the head of Risdon Creek, on the east side, seems preferable to any other on the banks of the Derwent'. It was not surprising, therefore, that Bowen's commission from Governor King directed him to locate the new settlement in the Risdon area. In actual fact, the site ultimately proved unsuitable due to the inadequate stream and the poor landing place; these handicaps were aggravated by the wretchedness of the human material at Bowen's disposal, a characteristic not altered when the camp was increased to nearly 100 persons.

If the settlement has any claim to fame, it derives from an encounter with natives who descended on the camp on a hunting expedition and who were fired on by the soldiers in a state of panic. Whether the future barbarities of inter-racial war could have been avoided is an open question but this encounter was the first phase of a struggle that ended in the extinction of a race.

The final act of the Risdon settlement was played on 9 August 1804, when the *Ocean* sailed for Port Jackson with Lieutenant Bowen and most of his people; Lieutenant-Governor Collins at the new settlement at Hobart had decided to close down the Risdon camp and held such a low opinion of these early colonists that he retained only thirteen convicts and one free settler.

The Settlement At Hobart (1804)

If Lieutenant-Colonel Collins had carried out his original instructions, then Hobart today might have been the name of the capital of Victoria situated on Port Phillip Bay. The British Cabinet, impressed by Governor King's warnings on possible French penetration, decided to carry out the occupation of Port Phillip direct from Britain and, to this end, commissioned Lieutenant-Colonel Collins (Royal Marines) to command an expedition in the *Calcutta* with the *Ocean* as tender. The settlers eventually arrived, via Rio De Janeiro and the Cape of Good Hope, and formed a temporary camp

near the site of the modern Sorrento township. For a variety of reasons, Collins was unhappy about the locality; he considered navigation hazardous, the soil poor and water scanty. Promising land at the head of the bay he was unwilling to develop due to the show of strength by large bands of natives. Accordingly he wrote for advice to Governor King in Sydney and was left free to decide between the River Derwent and the River Tamar (Port Dalrymple) as possible sites for transfer of his command. He was probably swayed in his eventual choice of the River Derwent by its reputation as a safe harbour and the fact that Risdon had already been settled.

On 15 February 1804, Lieutenant-Governor Collins, with the first detachment from Port Phillip in the *Lady Nelson* and *Ocean*, anchored off the new settlement at Risdon. A quick inspection satisfied Collins that the site was quite unsuitable and he made his own reconnaissance, eventually selecting the area on the western bank known as Sullivan's Cove and ordering that the expedition should be disembarked with all its stores in the vicinity of Hunter's Island. In the same month, Collins reported to King that his two ships were 'lying within half a cable-length of the shore in nine fathoms of water'; the Lieutenant Governor had selected gentle slopes for his settlement, located a fine stream running from Mt Wellington and found near the mouth of the stream depths of water which would accept the draught of any vessel of his day (or of the modern era).

The following table shows the early composition of the settlement at Sullivan's Cove (but excludes details of the Risdon camp):

Number Victualled at Sullivan's Cove, 26 February 1804

| Quality | Men | Women | Children |
|------------------------------|-------|-------|----------|
| Military Establishment | 26 | 1 | .. |
| Civil Establishment | 6 | .. | .. |
| Settlers | 13 | 5 | 13 |
| Convicts | 178 | 9 | 8 |
| Supernumeraries | (a) 3 | .. | .. |
| Total | 226 | 15 | 21 |

(a) Including one aboriginal from Port Jackson.

The strength of the colony was increased to 433 persons in June 1804 when the *Ocean* returned from Port Phillip, where it had taken aboard the balance of the original expedition. From the camp on Sullivan's Cove has sprung the present city and port of Hobart.

David Collins was no amateur in the field of colonisation—he had sailed with Governor Phillip as Judge Advocate in the first fleet in 1788 and had acted as Secretary to the Governor till 1796 when he returned to Britain with excellent recommendations. His memory is honoured in Hobart's Collins St, in the Anglican Cathedral (St David's) and by the memorial above his grave in St David's Park.

The Settlement on the Tamar (1804)

While the Lieutenant Governor was still in Port Phillip Bay, wondering where best to settle, he sent his namesake, William Collins, on a voyage of exploration to the Tamar estuary. William Collins followed the river up as far as the Cataract Gorge and returned to Port Phillip with a good account of the

possibilities of the Tamar for settlement; in his absence, however, the Lieutenant Governor had made up his mind and was already preparing for the expedition to the Derwent.

Later Governor King received a despatch from Lord Hobart (Secretary of State for the Colonies) who, by a grotesque error, recommended the establishment of a settlement at Port Dalrymple 'upon the southern coast of Van Diemen's Land and near the eastern entrance of Bass' Straits'. If Lord Hobart really meant 'south', then Collins' move to the Derwent had anticipated his wishes. However, since Collins had, in fact, left Port Phillip, was not it necessary to re-occupy Port Phillip or possibly to watch the Strait from Port Dalrymple? King knew that Hobart's despatch was written in ignorance of Collins' move and accordingly decided to use his own initiative without raising questions of geography with the Secretary for Colonies.

In Hobart's despatch, Lieutenant-Colonel William Paterson (New South Wales Corps) was nominated as Lieutenant Governor of the new colony. Paterson set sail with 57 soldiers and convicts in the *Integrity* and the *Contest*, but after a month of adverse winds both ships were forced back to Port Jackson. A second attempt was made using *Buffalo*, *Lady Nelson*, *Francis* and *Integrity* and increasing the party to 181. This time the Tamar was successfully entered but *H.M.S. Buffalo* went aground and was, with some difficulty, brought to anchor in Outer Cove (George Town) on 4 November 1804. Lieutenant-Colonel Paterson decided that *Buffalo* must be immediately unloaded and accepted the Outer Cove site as a suitable camp while he undertook a more detailed reconnaissance of the Tamar.

Although he penetrated as far as the fertile site of Launceston, Paterson made the extraordinary decision to set up his headquarters at the head of West Arm and founded York Town, while still maintaining small establishments at Outer Cove, Low Head and Green Island. In commenting on York Town, one can only imagine that Paterson was guided purely by the strategic necessity of being near the entrance to the Tamar and that he gave little thought to the problem of soil fertility and cultivation.

In March 1806, Paterson was willing to admit that York Town was a most unsuitable site and he accordingly moved his headquarters to the present site of Launceston. Today York Town and Risdon have one thing in common—the almost complete absence of any indication that settlements had ever existed. The Lieutenant Governor's name is commemorated today in Launceston's Paterson Street and Paterson Barracks.

Paterson, before setting out on this expedition, had been involved in an argument as to his status but Governor King had resolved the matter by dividing Tasmania at the 42° parallel and making Collins and Paterson sovereign in their respective halves, but subordinate to him as Governor. In naming the Tamar and Launceston, Paterson was honouring King who came from Launceston in Cornwall.

THE ADMINISTRATION OF SIR JOHN FRANKLIN

Introduction

Sir John Franklin resided in Van Diemen's Land from 1837 to 1843 as lieutenant governor; the circumstances accompanying his recall and replacement were so humiliating that he reluctantly wrote a treatise in his own defence and this personal statement is featured in a separate article, headed 'The Narrative of Sir John Franklin'. The accepted early tradition credited his predecessor, Colonel Arthur, with being a strong and successful administrator;

Franklin, despite his personal integrity and dedication, was held to have been almost a failure. This was certainly the view of John West when he wrote *The History of Tasmania* in 1852. The truth of the matter appears to be that some conditions changed for the worse in Franklin's era, but that he was in no way responsible for these unfavourable developments.

The New Convict System

'Voila nos richesses' said Lady Franklin passing a gang of convicts, in company with a French naval captain. This realistic appraisal of the value of cheap labour would have won the approval of most free colonists in 1837, their prosperity depending on the supply of convict workers and servants provided under the assignment system. In a Dumas novel, Madame Giovanni visits Hobart and cannot find any convicts; she is then enlightened thus: 'The porter who brought your luggage is a prisoner; the maid who waits on you is a prisoner; the man in the street from whom you enquired the way is a prisoner; the police agent who inspected your papers is a prisoner; I myself who have the honour to serve you am a prisoner; but as you see, we are prisoners without a prison.'

It was Franklin's misfortune to be ordered to end this assignment system, popular with most settlers, and to introduce the probation system. Even more unfortunate for him was the Imperial decision to end convict transportation to N.S.W. (1840), and to make Tasmania the principal penal colony of the Empire. The first change meant that the settlers had to be deprived of the supply of cheap labour to which they were accustomed whilst the second increased the annual intake of convicts to almost unmanageable numbers (the peak year was 1842 with 5,329 arrivals).

The assignment system distributed the convicts as workers on the estates and in the businesses of settlers throughout the colony; there were, of course, good masters and bad masters, and assignment to one type or the other was purely fortuitous. Reformers in Britain thought there should be more uniformity and certainty in the punishment of transported offenders and persuaded the Imperial government to introduce the probation system; in so doing, they totally disregarded the settlers' economic interests.

The essence of the probation system was that all transportees had first 'to prove their worth' before being allowed to work as individuals in the community. The basic unit was the probation gang of two or three hundred men, segregated from the community and required to work under the close supervision of their guards. After successfully graduating from this 'school', the convict became a passholder of the lower grade, able to work in the community for a proportion of current wages; then a passholder of the higher grade, able to demand full wages; and finally a free man. The chief difficulty was the adequate control and employment of the probation gangs. In November 1840, Franklin called the Imperial government's attention to 'the almost total absence of a properly qualified class of persons to fill the situations of Superintendents and Overseers of the Probationary Gangs'.

Franklin did not originate the change but it was his duty to give effect to the orders he had received; nevertheless he used some discretion in tapering off the old system. July 1839 saw the end of assignment to domestic service but assignment in towns was not terminated until July 1840. The settlers' fears about a possible future shortage of labour were justified since the years 1838-1840 were characterised by increasing prosperity and business expansion. In August 1840, Franklin told his Legislative Council that he shared the settlers' apprehension and had taken steps, on his own initiative, to promote an influx of free migrants. Unfortunately due to a drop in wool prices, the period

1841-1843 was one of deep depression, not just for Tasmania but for the other Australian colonies; the immigration which Franklin had encouraged, with good reason and popular approval, became an embarrassment in the depression years when free workers and passholders competed for employment in a declining labour market.

The forced close association of convicted criminals in the probation gangs was one of Franklin's major worries. If reformation were the aim, no more efficient device than the gangs could have been invented to thwart it. Under this system, the good became bad and the bad become worse but the governor could do nothing to change the zeal of the reformers, removed a safe 12,000 miles from the site of their interesting penal experiment. Thus, Franklin had to bear the resentment of the colonists and to execute a set of orders of which he disapproved.

Public Finance

In Arthur's day, the British government bore the whole cost of the convict establishment, so all colonial revenue (chiefly from land sales and taxation) was available for colonial purposes. From 1 July 1836, however, revenue from land sales was to be charged with the cost of maintenance of gaols and police; in a free colony, this might seem a reasonable measure but Tasmania was a mixed colony (in 1837, the population was made up of 17,592 convicts serving sentences and 24,000 'free', a category which included emancipated convicts and the children of convicts). Quite obviously Tasmania was a special case and the high cost of maintaining gaols and police should have been related to its status as a penal colony, and its convenience as a place of exile for Great Britain's undesirables.

Franklin's Legislative Council passed the estimates for police and gaols under protest in 1837 and 1838. In 1839, the Council adopted a resolution which cut the police and gaols estimates to one third of those submitted and referred to the members' hope 'that the British Government would, as a matter of simple justice, have consented to bear their share of the very large expenditure incurred for the control of their criminals . . .' This same cause of discontent was to flare up again in Sir John Eardley Wilmot's governorship, paralyse the civil government and finally disappear when the British government capitulated.

Franklin's last three years in the colony were marked by budgetary troubles. The depression of the years 1841-1843 progressively reduced land sales and customs taxation, the main sources of colonial revenue and in 1843 he advised Lord Stanley (Secretary of State for Colonies) that a deficit of £17,907 might be expected; he also advocated a most unwelcome remedy, urging that the mother country should bear 'a larger proportion of the expenses occasioned by the transportation of Convicts to the Colony, for it is undeniable that almost every public department is much more extensive than it would be were it not a penal colony'. The Imperial government ignored Franklin's advice but was forced to take action on these lines in 1846, the matter having been brought to a crisis by the resignation of the 'Patriotic Six' from the Legislative Council.

Constitutional Development

The coming of Franklin awoke hope among the more enlightened settlers that the reform of the appointed Legislative Council might be expected, and that representative government might soon be announced. Franklin himself was not hostile to these expectations and, in 1838, ordered that Legislative

Council sessions should be opened to the public. In 1840, he wrote to the Secretary of State for Colonies and said he had taken this action 'under the idea that . . . I was paving the way for some modification in the Legislature of the Colony'. He concluded his despatch thus: 'It becomes my duty to submit to your Lordship whether the substance having been thus virtually given up by opening the doors of the Council, the form might not also be conceded by giving to it also something of an elective character.'

Unfortunately 1840 was the year in which the decision had been taken to end transportation to N.S.W. but to continue it to Tasmania. Thus the Imperial Act for the Better Government of N.S.W. and Van Diemen's Land was merely formal in its inclusion of the island colony and its authorisation of representative government (introduced in N.S.W. in 1842) held out no immediate promise for a settlement destined to be the Empire's chief gaol. In the opinion of the home government, transportation and representative government were incompatible institutions; Franklin was advised of this view and forced to give up his liberal aspirations.

Education

In his first speech to the Legislative Council, Franklin said: 'The cause of Education . . . is one which cannot receive a too anxious attention at our hands. There is none that needs it more.' Government interest in education began in 1817 when Lieutenant-Governor Sorell obtained a salary subsidy for Thomas Fitzgerald (too drunken to remain as clerk of the bench of magistrates but apparently considered fit to be a schoolmaster). When Arthur's regime ended, there were 29 government-aided schools with an enrolment of 700 children (the island's population was then 42,000).

Franklin's original plan was to set up primary schools to 'be conducted upon a strictly religious basis, in accordance with the principles of the Church to which the majority of the children attending it at its commencement may belong.' The protest of the non-Anglican denominations forced Sir John to change his mind and propose an undenominational scheme based on four principles: instruction in reading, writing and arithmetic; universal perusal of the Bible without note or comment; the exclusion of creed, catechism and doctrine; and the voluntary support of schools. Schools were to be established to serve a minimum of 40 children in Hobart or Launceston, 20 in other townships or 15 in the country; the government was to pay schoolmasters' salaries (£100 Hobart and Launceston, £75 elsewhere) and an annual government subsidy of ten shillings was to be paid for each pupil over the minimum number; the teachers were also to be allowed to charge small fees. By 1842, the Board of Education was able to report that Franklin's new Day Schools system was a great success; enrolment stood at 1,460 pupils, and many properly trained teachers had been recruited from England. Kathleen Fitzpatrick writes: 'But to Franklin must be given the credit of planning and bringing into being a really national system of education which, despite its defects (which were grave and numerous), was unique in the British Empire, and a most advanced educational experiment at the time and in the place where it was made'.

History records that Christ College, the Launceston Church Grammar School and the Hutchins School, Hobart, were all established in 1846 after Sir John left the colony. Nevertheless, this move forward must be credited, in large degree, to Franklin who had worked tirelessly throughout his governorship to persuade the colonists of the necessity for higher education. The famous Arnold of Rugby had sent out, at Franklin's request, one of his old boys, John Philip Gell, M.A., of Trinity College, Cambridge; he had arrived in

1840, to be the principal of Franklin's projected college, and while waiting for its incorporation and erection, he conducted the Queen's School in Hobart. Gell, like Franklin, was a strong influence, not only in calling for higher education in the colony but also in propagating the views of Dr Arnold on public schools ('public' being the perverse British term for a private school).

The Royal Society

The Royal Society of Tasmania rightly claims Sir John Eardley Wilmot as its founder and Tasmania was proud to be the first place outside the British Isles to have its own branch of the Royal Society. The nucleus of interested members, however, had been built up in Franklin's first year of governorship when he and other kindred spirits formed the Tasmanian Natural History Society 'for the advancement and diffusion of the Science of Natural History in all its various branches, and especially for the investigation of the indigenous productions of the island'. Attempts to found a museum with official funds having been frustrated by the home government, Sir John turned to his wife who bought land and paid for a building at Lenah Valley, Hobart (it still stands today as the Lady Franklin Museum).

The keen interest of the governor in the Tasmanian Natural History Society can be inferred from the fact that two of his private secretaries were successively secretaries of the Society and that its meetings were held at Government House. The encouragement given by the Governor to men of science inevitably brings to mind the names of Gould and Strzelecki (Gould, author of *Birds of Australia* and Strzelecki, the Polish geologist). Both these celebrated men were made welcome guests at Government House for long periods and given every aid in the work they were undertaking.

A Route to the West

When Franklin arrived, Macquarie Harbour on the west coast was still only to be reached by sea. The nearest land approach had been made by the surveyor, W. Sharland, who reached an outlier of Frenchmans Cap in 1832; his route had taken him near Lake St Clair which he was the first to see from a mountain spur. This discovery was followed up by G. Frankland, the Surveyor General, and J. E. Calder in 1835 when they made a thorough exploration of the Lake St Clair district.

In 1840, Sir John proposed that Transylvania (the old name for the area between Lake St Clair and Macquarie Harbour) should be explored and J. E. Calder set to work with convicts to cut a track from Lake St Clair to the Gordon River, close to its mouth on Macquarie Harbour. By 1842 the work was completed and Sir John and his wife set out in March of that year to make the overland route. Their departure was too late in the season to assure reasonable conditions and they were held back by adverse weather and flooded rivers; from Hobart to the Gordon River occupied them from 24 March to 22 April when they embarked on the *Breeze*, waiting for them up-river. Escape from Macquarie Harbour was made impossible by adverse winds until 15 May. Their long absence from the capital inspired fears for their safety and the *Launceston Advertiser* speculated whether the governor had found 'a tomb in the unhallowed trunk of a gumtree'. It went on to condemn 'the romantic disposition which induced his Excellency to abandon the luxuries of his home for the precarious comforts of the bush.' But what more natural could there be than a former explorer exploring?

The Depression

The *Colonial Times* of 18 January 1842 read: 'Sir George Arthur . . . caused the Colony to attain a state of prosperity which has been declining from the very moment of his departure . . . his successor, in five years only, has brought the colony to a condition . . . bordering on ruin.' To attribute to Franklin responsibility for the depressed economic conditions in the later part of his governorship was, of course, grossly unfair.

The prime cause was a fall in the price of wool affecting all the Australian colonies. Tasmania had a more diversified economy and therefore suffered less from this particular cause but other crippling factors were at work. Overlanding of stock from N.S.W. to Port Phillip and S.A. reduced disastrously the market for the island's stock; in the matter of wheat, too, the drought in N.S.W. broke whilst S.A. and Port Phillip began to grow their own. So, for a variety of reasons, Tasmania's important export outlets on the mainland began to contract.

The settlers' difficulties were made even greater by their earlier mortgaging of property at the high interest rates that had prevailed in the 1830s (rates from 10 to 15 per cent were not unusual). *Murray's Review* of 24 March 1843 explains the difficulty: 'Unproductive estates, or what is the same thing, produce which has fallen to half the price which it obtained when the rate of interest was agreed to, furnished the payer of a mortgage interest of £100 a year with only £50 to discharge it.' Two Tasmanian banks, Archers Gillies and Co., Launceston, and the Colonial Bank, Hobart, failed in 1843 and it was only with the most desperate exertions that Swanston kept the Derwent Bank afloat (it closed in 1849).

To blame Franklin for these developments is absurd; it is equally apparent that any governor, given contemporary *laissez-faire* economic theory, was hardly in a position to suggest or implement measures to end the crisis.

Franklin's Dismissals

Franklin was unfortunate in bringing from England with him a Captain Maconochie as his private secretary. The man was an ardent penal reformer and had soon prepared a voluminous report, airing his views on the convict system. By a subterfuge, he inserted this report in Sir John's official despatches and thereby had his opinions examined by the Molesworth Parliamentary Committee on Convict Transportation. The Governor was astonished to find through the English press that his private secretary thought the colonists were cruel slavemasters, that tireless coercion was the only principle applied, and that it was a matter for wonder that anyone bothered to stay sober under these shocking conditions. The Governor had no alternative but to dismiss him; nevertheless Maconochie's opinions aided reformers who favoured the probation system and wished to abolish assignment.

In 1839, John Montagu, the Colonial Secretary, applied for leave of absence to visit England and recommended that Matthew Forster, the Chief Police Magistrate, should act in his place; Franklin appointed Forster and thereby deeply offended John Gregory, the Colonial Treasurer, who had once before been passed over for promotion when Arthur made Montagu Colonial Secretary, in 1834. Gregory, as Colonial Treasurer, was constitutionally bound to act in accordance with a principle applicable to the conduct of cabinet ministers today, namely to support government policy or resign. In the matter of the Feigned Issues Bill (concerned with illicit distillation), he not only voted against this government measure but spoke loudly against it in the Legislative Council and in public and used all his influence to sway the votes

of other members. On the defeat of the bill, Franklin did not suspend him from office but sought the opinion of the Secretary of State for Colonies, Lord John Russell, who advised that the Treasurer should be removed from office. The Governor received this opinion in August 1840 and immediately carried it out. Gregory returned to England and began a vocal campaign against Franklin's administration.

In the case of Gregory, Sir John had ample grounds for dismissal but he had held his hand and referred the matter to the home government. In January 1842, a crisis arose in his relations with John Montagu and this time he felt that no delay was possible; accordingly he suspended Montagu and advised the home government of the reasons for his action. The unhappy results flowing from this decision are described in the next article, headed 'The Narrative of Sir John Franklin'.

THE NARRATIVE OF SIR JOHN FRANKLIN

The Explorer

The *Encyclopaedia Britannica*'s biography of Sir John Franklin tells of his fighting in the battles of Copenhagen and Trafalgar, describes his heroic deeds as an Arctic explorer and credits him with the near-discovery of the north-west passage in the final expedition which cost him his life. It states, *without comment*, that he was Governor of Van Diemen's Land from 1837 to 1843; there is no mention of his early association with Flinders or his presence in Sydney when the first party left to colonise this island. Perhaps that is how he should be remembered, as a sailor, an explorer and a hero rather than as the administrator who left Tasmania with a feeling of humiliation and shame; he had not been dismissed but all the circumstances connected with his replacement conspired to give this impression. The blame for this humiliation may be attributed to three personalities; John Montagu, the Colonial Secretary; Lord Stanley, the Secretary of State for the Colonies; and possibly Franklin himself, more at home on the bridge than in the governor's mansion.

The Author

In May 1845, Sir John Franklin set sail from England with the ships *Erebus* and *Terror*, the aim being the discovery of the north-west passage; his expedition was lost with all hands in the frozen north although many years were to pass before its fate became known. It was only in June 1844 that he had landed from Van Diemen's Land and set himself the task of writing a book which he called *Narrative of Some Passages in the History of Van Diemen's Land during the last three years of Sir John Franklin's Administration of its Government*. In the preface, dated 15 May 1845, Sir John expressed regret that he would have to sail without the satisfaction of seeing his pamphlet out of the press.

The *Narrative* is no ordinary book for its fly-leaf bears the inscription 'Not Published'. The edition was small and known copies bear an inscription that each was given to the recipient 'By Order of Sir John Franklin'. Sir John's preface sets out his aim: 'The following pages have been written chiefly for my friends in Van Diemen's Land, in order not to leave them in ignorance of the steps which I have taken to vindicate the honour of my late office, and my character as their Governor, from ex parte representations on points on which, so long as I exercised the functions of government, I was precluded from offering any explanations.'

Suspension of Montagu

Franklin's predecessor, Governor Arthur, had dismissed the Colonial Secretary, John Burnett, for making illegal land transactions; in this office, he had installed John Montagu, a relative. This dismissal was not questioned in Downing Street, the abode of the Secretary of State for the Colonies. Governor Franklin, for reasons that will be developed later, felt compelled eventually to dismiss John Montagu, a decision conveyed to that officer on 25 January 1842. Montagu took ship for England, interviewed Lord Stanley at Downing Street and argued that his dismissal was entirely unjustified; his journey was fruitful for the concluding paragraph of the notorious *No. 150. Despatch*, signed by the Secretary of State for the Colonies on 13 September 1842, read as follows:

'I am not aware it could answer any useful purpose to enter more fully into the merits of this protracted controversy. But, reluctant as I am to employ a single expression which is likely to be unwelcome to you, I am compelled to add that your proceedings in this case of Mr Montagu do not appear to me to have been well-judged, and that your suspension of him from office is not, in my opinion, sufficiently vindicated.' The despatch also intimated that Montagu was to be made Colonial Secretary at Cape Town.

If the despatch had been only for the eyes of Governor Franklin, no great harm would have been inflicted, but this was not the case. Lord Stanley, with no apparent concern for the Governor's prestige, let John Montagu have a copy of the document and Montagu quickly arranged that its contents should be circulated and published in Van Diemen's Land, much to the embarrassment of Sir John who was still administering the functions of government in the colony. Later Montagu arranged the circulation within the colony of what purported to be a record of his conversations with Lord Stanley; he was not only to receive the appointment of Colonial Secretary at Cape Town but the funds of Van Diemen's Land were to be charged with his salary, from the date of his suspension by Franklin until he was given this better appointment (this rumour later proved to be true). Thus Franklin was made to appear the defeated party, both to his friends and enemies, and the fact that he still held office barred him from revealing his side of the controversy.

Arrival of Sir John Eardley Wilmot

In July of 1843, Sir John opened a copy of the *Times* from London, its date being 24 February 1843 and read a gazette notice of Sir Eardley Wilmot's appointment as Governor of Van Diemen's Land; the Colonial Office had given him no prior warning of this decision. On 18 August 1843, Sir Eardley Wilmot appeared in Hobart Town, having landed from the *Cressy* prison ship the night before, and bearing no documents from Lord Stanley to explain his presence. However two ships, the *Gilmore* and the *Eamont*, arrived within the next two or three days, and brought despatches informing Sir John, in curt and ungracious fashion, that a successor had been appointed. It took him ten days to vacate Government House and take up residence in a home made available by friends; on 3 November 1843 he sailed from Hobart Town and landed at Portsmouth on 6 June 1844.

Search for Vindication

Sir John then set himself the task of obtaining a statement from Lord Stanley; such a statement should express the Minister's appreciation of Sir John's services and make it quite apparent that he had not been replaced as governor through any lack of confidence in his administration. An interview

produced precisely nothing but finally he obtained a chilly letter in August from the Minister and this did concede, though in very grudging style, some of the points which Sir John had argued. For example, on the question of dismissal, Lord Stanley wrote:

'I regret to find that I have been unsuccessful in removing from your mind, by re-iterated explanations, the impression not only that you were recalled from your government as a mark of disapprobation, but that the course I adopted subsequently to my disapproval of your suspension of Mr Montagu, and every step which I took was calculated to lower you in the eyes of the colonists, and to embarrass your government. I have in vain explained to you the very different motives by which I was actuated, and the accidental circumstances which produced some of the results of which you complain . . .'

One of Sir John's difficulties in dealing with the Minister was this gentleman's extreme reluctance to discuss Lady Franklin—yet Montagu's allegations against the Governor had suggested that Lady Franklin had interfered in official matters. Reporting his interview with Stanley, Sir John writes: 'When I mentioned that the reference to Lady Franklin in equivocal terms in that despatch made the injury more poignant, and was proceeding to point out how its publication had given impunity to the attacks of the press, his lordship arrested me by expressing his extreme repugnance to the bringing the name of a lady into the discussion. It was not in my power to respect this scrupulous delicacy on his lordship's part, which does not appear to have existed . . . when Mr Montagu's calumnious statements respecting that lady were made to his lordship . . .'

The same reluctance appears in Lord Stanley's final letter of August 1844: 'You will excuse me if I persevere in declining to discuss the question which was unfortunately raised of the interference or non-interference of Lady Franklin in the affairs of government. I have frequently expressed my regret that any lady's name should be introduced into discussions of this kind, and I think it quite unnecessary that I should express any opinion on the subject.'

Until the receipt of this ungracious letter, Sir John had hoped that Lord Stanley, acting on evidence and the merits of the case, would change his attitude and make some official statement recognising the good work he had done in the administration of the colony. Franklin had no desire to drag Montagu down and, in fact, had recommended his further employment by the Crown—but not in Van Diemen's Land; nevertheless he felt that Stanley had completely failed to back him as governor and had steadfastly refused to give the slightest word of approval for his meritorious services. This final letter from Stanley convinced Franklin that he had exhausted the possibilities of 'vindicating the honour of his late office' by orthodox means and so he conceived the idea of writing a book, not for general sale, but for private distribution to his friends. If he could let them know the facts, then his reputation would be restored, and with this motive he set to work to produce the *Narrative*.

Arthur's Legacy

The *Narrative* gives the following picture of what Franklin encountered on first taking office:

'It was not to be wondered at that I found the chief places of influence and emolument in Van Diemen's Land filled by the relatives and friends of the late Lieutenant Governor. They formed a compact and strong body of con-

nexions and adherents bound to their late chief by the ties of obligation and gratitude, and by that *esprit de corps* which ever exists where opposition is active and in any degree prevailing'.

There were Mr Forster, the Chief Police Magistrate and, even more powerful, Mr Montagu, the Colonial Secretary. 'These gentlemen had married two sisters, nieces of Sir George Arthur, and owed entirely to him their occupation of offices which are almost invariably in the present day filled from home'. Mr Montagu was an extremely capable officer, and Franklin has no hesitation in saying so. But there was another aspect:

'Mr Montagu had also another source of influence. This was his money-agencies in connexion with the Derwent Bank, a most influential establishment, which at a later period than that of which I am speaking, and when few estates were not more or less encumbered, held nearly three-quarters of the mortgages in the colony. Though his official position in the colony prevented Mr Montagu from being a Director of the Bank, yet he represented in it, for himself and others, stock to a very large amount, and it was well understood in the colony that the Manager of the Bank, Mr Swanston, conferred with him on every important occasion, and that the Bank and the Colonial Secretary reflected and augmented each other's influence. The people of Van Diemen's Land are well aware that for years the Derwent Bank has held half the colony in its thraldom.'

Despite his awareness of the abnormally powerful position enjoyed by Montagu, the new Governor managed to work with him quite successfully, and to slowly establish a cordial personal relationship; Montagu and his family even stayed at Government House for a short period before he sailed for England, having been granted leave of absence. He was away for two years, returning in 1841. Sir John seemed to note a change: 'Mr Montagu had returned, it was understood, with a large increase to his commissions for the Derwent Bank, and with a vast accession of claims to political importance derived from his boasted intimacy with the officers of the Colonial Office in Downing-street'. The earlier good working relationship deteriorated, for '... I could not but be sensible that Mr Montagu had become more jealous of control, and that his determination, whenever we differed, was to carry his point at all hazards'.

How it Began

In the Richmond district in 1841, Dr Coverdale held the post of District Surgeon and was thought to have 'carelessly and inhumanly' let a patient die. The Principal Medical Officer recommended that the young doctor should be severely reprimanded but Montagu went further and urged dismissal; Franklin agreed with the Colonial Secretary, and this could well have been the end of the matter. But, in Richmond, Dr Coverdale had many good and influential friends who wanted him retained and who had a high regard for his skill, sufficient to make them overlook one blunder. Their spokesman, the Rev. W. J. Aislaby, received this letter, dated 22 October 1841, from John Montagu:

'I am directed by the Lieut-Governor to acknowledge the receipt of the communication of the 14th instant, signed by yourself and twenty-five inhabitants of the district of Richmond, in which you state, that without questioning the propriety of his Excellency's decision, arising out of the lamentable death of Richard Higgins, you will be thankful if his Excellency will restore Dr Coverdale to the appointment which he lately held.'

I am to inform you, that having considered the request of so many of the most respectable inhabitants of your district, including the Foreman of the Jury on the inquest, the Lieut-Governor has, in compliance with your

desire, thus unanimously and respectfully communicated to him, thought proper to comply with your request by returning Dr Coverdale to his former office'.

The letter gives no hint of the anger of its writer but Montagu had strenuously opposed this change of heart by the Governor. He had asked for a delay before any answer was made and had addressed to Franklin an official memorandum insisting on the necessity of dismissal. The Governor claimed that he had not yet learned 'that it is a greater blunder in a ruler to repair than to commit an error' and instructed Montagu to let the petitioners learn of their success. Sir John and Lady Franklin had themselves visited Richmond earlier in October and this was the basis for allegations that Lady Franklin had suggested the getting-up of the petition. This allegation was certainly made by Montagu to the Rev. Aislabie in a letter dated 8 Feb. 1842, and had appeared earlier in the *Courier*, a paper with which Montagu was thought to have close connections.

Montagu's Re-action

The decision just described, whether to dismiss or retain a medical officer, hardly seems to deserve mention were it not for Montagu's furious re-action. After absenting himself for several days, he interviewed Franklin and threatened him thus: 'In a very deliberate and formal manner, he informed me that evil consequences would ensue from the step I had taken respecting Dr Coverdale; that great excitement prevailed in the district of Richmond; that the petition was an entirely political movement; that he knew how it was "got up"; that Dr Coverdale's punishment was stated to be *his* (Mr Montagu's) act, and that to restore him was to degrade *his* (the Colonial Secretary's) office; that I must not in future expect the same assistance he had hitherto rendered me, though he should keep within the line of his official duty; that he feared however my official labours would be greatly augmented—he hoped the evil consequences he foresaw might *not* take place'.

According to Sir John, Mr Montagu did precisely what he had threatened. He avoided seeing the Governor as much as possible and official papers came forward with no supporting information, advice or documentation. When facts were required for Sir John to make a decision, he had to drag them out one item at a time from the Colonial Secretary's Office and trivial matters, which had previously been disposed of at lower level, were now referred to him for personal decision. Franklin felt that the aim of Montagu's changed attitude was 'to make me feel that my dependence on Mr Montagu's ordinary services was not to be broken with impunity'.

The Final Insult

It became public knowledge that a feud existed between the Governor and the Colonial Secretary, and the *Van Diemen's Land Chronicle* began a series of attacks on the former. Franklin called Montagu's attention to the scurrilous articles and inquired 'whether he had taken any steps to uphold under such circumstances the dignity of my government', there being good grounds for believing that a close intimacy existed between Macdowell of the *Chronicle* and the Colonial Secretary. Montagu blandly replied that he could not 'withdraw assistance he had never given' or 'assert the dignity of my government by any step of that description'.

Further correspondence on this subject reached a climax when Montagu sent Franklin a most insulting letter on 17 January 1842, the obnoxious passage reading: 'But I trust your excellency will also pardon me for submitting

to you,—and I beg to assure you that I do so under a deep conviction of the necessity of supporting my statement,—that while your excellency and all members of your government have had such frequent opportunities of testing my memory as to have acquired for it the reputation of a remarkably accurate one, your officers have not been without the opportunity of learning that your excellency could not always place implicit reliance upon your own.' Shorn of all its elegance, Montagu's statement was an assertion that the Governor was feeble-minded. Sir John certainly did not lack the wit to see this imputation and, thinking the matter over for a week, told Montagu on 25 January 1842 that he was to be suspended from office until Her Majesty's pleasure should be known. The suspension came exactly three months after Montagu had announced his intention to withhold the services he had previously rendered to the Governor.

Franklin's Error—Generosity

'To destroy or be destroyed is the usual choice of official war; and Montagu had not been bred in a school where more generous maxims prevail.' (John West, *The History of Tasmania*.) Six days after his suspension, Montagu apologised for the insulting letter which he begged to withdraw but the Governor would not relent, 'as my decision had been formed on public grounds and on the whole of Mr Montagu's conduct, and was generally known in the community'. Sir John nevertheless told Montagu of his intention 'to recommend him to the Secretary of State for employment as an able and experienced officer, whose services might be useful in any country but in Van Diemen's Land'. As West puts it: 'Sir John is perhaps the only man who ever accompanied a dismissal with eulogy, and the result of his candour will probably prevent its imitation.'

Considering that Montagu intended to take ship almost immediately for London and Downing Street, it is apparent that Franklin had gone a long way to providing him with a defence; if he was 'an able and experienced officer', as the Governor would testify in subsequent despatches, then possibly the fault could be proved to lie with Franklin, or as Montagu later alleged, with Lady Franklin whose interference he claimed responsible for not a few official decisions.

Once in London, Montagu proved to be a formidable opponent. Colonel Arthur was held by the Colonial Office to have been a highly successful governor in his twelve years' of office and Montagu was remembered as his close associate and as the principal official of his regime; his previous stay in England, 1839-1841, had been well spent and he had been regarded at Downing Street as an authority on every detail affecting Van Diemen's Land. The essential question facing Lord Stanley was whether to support Franklin's suspension of his Colonial Secretary, or to repudiate it. Montagu, of course, had one overwhelming advantage—he was there in London to put his case whereas Franklin could only give the reasons for his action in a series of despatches. If Montagu, in his own defence, fabricated or twisted evidence, no opportunity was given the Governor to know of it since Stanley came to a decision by September 1842. Montagu's defence had been a series of counter-allegations and Franklin was kept in ignorance of their nature, and was not asked to comment on them.

The Despatch

On 13 September 1842, Lord Stanley signed No. 150. *Despatch* for transmission to Franklin but ordered that a copy should also be given to Montagu. In the despatch, the Secretary of State contemptuously dismissed every charge

made by the Governor and offered Montagu a better post than the one he had left in Van Diemen's Land:

'The result of my consideration of the whole subject is, as you will see, to relieve Mr Montagu from every censure which impugns the integrity or the propriety of his conduct, while I am compelled to admit that the circumstances of the case are such as to render his restoration to his office in Van Diemen's Land highly inexpedient. It was therefore gratifying to me to have it in my power to offer him an equivalent, which, while it would mark my undiminished confidence in his disposition and ability to render effective public service, would direct his talents to a field of labour in which they could be exerted without the inconvenience which must attend his resumption of his duties as Colonial Secretary at Van Diemen's Land.'

I offered for his acceptance the vacant office of Colonial Secretary at the Cape of Good Hope, and he cheerfully accepted it. It cannot be too distinctly understood, that Mr Montagu retires from the situation he has so long filled with his public and personal character unimpaired, and with his hold on the respect and confidence of Her Majesty's Government undiminished'.

The worth of Stanley's investigation of the charges may be gathered from this passage:

'Finally, you represent that Mr Montagu authorised the expenditure of large sums of public money in erecting the tower and spire of a church, not merely without your authority, but with a studious intention of keeping you in the dark on the subject. Here, again, I think that Mr Montagu is entitled to be completely absolved of the fault imputed to him. He had no notice of the charge before leaving Van Diemen's Land, but he has since repelled it to my entire satisfaction'.

The point at issue here was: who had authorised Captain Cheyne to go ahead with the portico, spire and other improvements for St George's Church at Battery Point. Montagu simply claimed that he had nothing to do with the undertaking, and that possibly verbal authority had been given by the Governor without the Colonial Secretary's Office being informed. This satisfied Stanley, as indicated in the *Despatch*, but Franklin was later able to produce the following document, signed by Montagu:

'Capt. Cheyne is now authorised to proceed with the work as speedily as possible, and if anything should occur to delay its progress, he will have the goodness to report the cause to me for the Lieutenant-Governor's information'. When confronted with this documentary proof two years later, Lord Stanley wrote to Franklin (August 1844): 'I think I have already informed you that I am satisfied that Mr Montagu, and not you, signed the authority for certain alterations in St George's Church, and in that respect your statement was more correct than his. The papers transmitted fully bear out your assertion'. (Sir John's statement was *more correct than his*—this is a very grudging admission that Montagu may have deliberately lied.)

The No. 150. *Despatch* is a document 1,400 words long but there is not one phrase expressing support or sympathy for the Governor's point of view. The only condemnation of Montagu appears as follows: 'But the abrupt abandonment of a cordial co-operation for a service confined within the exact limits of positive duty may be the subject of a legitimate reproach, and from that reproach Mr Montagu is not, I think, altogether to be exempted.' The balance of the document is devoted to praise of Mr Montagu and complete rejection of any charges Franklin had made. The matter of the insulting letter is disposed of with no difficulty: 'On this part of the case, also, I think that

Mr Montagu is entitled to be entirely acquitted of blame. He did indeed make use of an inadvertent expression in one of his letters to you, but the frankness and earnestness with which the error was acknowledged, and with which your forgiveness was solicited, seem to me to have been an ample atonement for an unfortunate selection of words; for such, and not any intentional insult, was the real character of the offence'. Stanley's attempt to gloss over a deliberate affront to the Governor does not make very convincing reading.

One charge made by Franklin was the fact that Montagu exercised power, not as the instrument of the Governor's will, but in his own right. Stanley was not impressed: 'I am not disposed to controvert, but rather to adopt your opinion, that various circumstances had concurred to place in the hands of Mr Montagu a degree of personal authority, which if not balanced by great energy and decision in his immediate superior, would probably tend to invert the relations which ought to subsist between them. But I find no reason to impute to Mr Montagu the blame of having acquired this power by any unworthy means or dishonest arts; or of having employed it for any sinister purpose, or in any unbecoming spirit.'

Conditional Resignation

The *Despatch* reached Franklin on 18 January 1843 and immediately presented him with the problem, should he resign? If Montagu had been re-instated as Colonial Secretary, this, of course, would have been his immediate re-action, but Montagu had been appointed to Cape Town. The Governor decided on making a conditional resignation: 'On the receipt of the despatch I hastened to request of Lord Stanley that he would lose no time in appointing my successor, unless he was enabled to give me the assurance of possessing what this despatch seemed to render so equivocal, the continued confidence of Her Majesty's Government.' The appointment of a successor was actually made in February 1843, long before Franklin's conditional resignation could be received.

Sir John was tempted to resign immediately but his sense of duty prevailed: 'If it be wondered at, that instead of this conditional resignation I did not instantly throw up the government, I have no hesitation in declaring that such an act would have been a weak and cowardly surrender of the interests and welfare of the colony to my personal feelings, at a crisis of peculiar difficulty, and at a distance of what may figuratively be called a twelve month from home. It was the very act most desired by an agitating and mischievous faction, and that which would have neutralised the good I expected to realise by the removal of Mr Montagu'.

Conclusion

As previously related, Sir John lived through ten months of humiliation before leaving the island in November 1843 and spent fruitless months in England endeavouring to obtain some redress from Lord Stanley. The three parties to the controversy are all remembered today in Tasmanian topography: Stanley, a town on Bass Strait; Montagu, the name of a bay, island, mountain and river; Franklin, a town, mountain, river and sound. Sir John's statue dominates the central park in Hobart, Franklin Square, and his name is resurrected every year at Hobart's annual regatta, a festival which he is credited with inaugurating. The legend of the sailor and the hero lives on, with Stanley and Montagu relegated to the role of specimens in the museum of Imperial antiquities.

(All quotations, apart from two attributed to John West, are taken from Franklin's own *Narrative*.

Further Reading: *Sir John Franklin in Tasmania*, by Kathleen Fitzpatrick.)

CHRONOLOGY**Preface**

The following chronology was compiled in two sections, the period 1642 to 1929 from a document specially prepared by officers of the State Archives, and the period beginning 1930 from a search of contemporary newspapers by Bureau officers.

In the record of more recent years, it was found impossible to describe purely Tasmanian events in isolation since certain national events necessarily form a part of the history of a State within a federal system; particularly is this true with regard to some Commonwealth Government decisions, the state of the economy and industrial arbitration. On the other hand, there is the difficulty of deciding which events of a purely local character are sufficiently important to warrant inclusion. Obviously Tasmania's first Parliament in 1856 is an item appearing more worthy of permanent record than Hobart's adoption of parking meters in 1955. This difficulty of selection is partly avoided by giving the record of recent years in considerably more detail but inevitably such a policy results in matters of major and minor importance being mingled without distinction. It follows also that the second part of the chronology is limited largely to what the newspapers of the day considered important and that some events of greater significance may have escaped notice.

To round off the picture of any given year, there is a constant temptation to introduce events of world importance; as far as possible, this has been avoided except where such events had considerable local impact, for example, the sighting of a space satellite overhead, a war involving Australians or the death of a Prime Minister. In no way should the record which follows be interpreted as an 'official' chronology of the State; in actual fact, the record derives from two levels of subjective evaluation, firstly, the selection of items of importance carried out by contemporary journalists, and secondly, the further selection from this narrowed field of items that appeared important to the compilers of the chronology. Some items have been introduced not because they are important but because they have a strong local flavour, for example, the suspected sighting of a Tasmanian tiger, the winning yacht in the Sydney-Hobart race or an isolated football victory over a V.F.L. side.

Chronology of Events from First Discovery of Tasmania

- 1642** Abel Janszoon Tasman, commanding *Heemskirk* and *Zeehan*, sighted west coast and named his discovery 'Anthony Van Diemenslandt'. Landings on Forestier Peninsula and near Blackman Bay on east coast.
- 1772** Landing of a party from Du Fresne's expedition at Marion Bay and affray with aborigines.
- 1773** Tobias Furneaux, in the *Adventure*, became separated from James Cook in *Resolution* and landed party at Adventure Bay.
- 1777** James Cook anchored *Resolution* in Adventure Bay on third expedition.
- 1788** William Bligh anchored *Bounty* in Adventure Bay on first breadfruit expedition.
- 1789** John Henry Cox sailed *Mercury* from Cox Bight to Maria Island.
- 1792** William Bligh, on second breadfruit voyage, anchored *Providence* in Adventure Bay. Bruni D'Entrecasteaux, commanding *La Recherche* and *L'Esperance*, discovered D'Entrecasteaux Channel and charted south-east coast.
- 1793** D'Entrecasteaux returned for further exploration of south-east coast. John Hayes, commanding *Duke of Clarence* expedition, explored Derwent River.

- 1798 Matthew Flinders and George Bass circumnavigated Tasmania.
- 1802 Nicholas Baudin, commanding *Geographe* and *Naturaliste*, explored south-east coast.
- 1803 John Bowen's party of 49 made first settlement at Risdon Cove.
- 1804 David Collins' settlement party landed at Sullivan's Cove (Hobart). Aborigines killed in an affray at Risdon. Risdon settlement closed down. William Paterson's settlement party landed at Port Dalrymple (Tamar estuary).
- 1805 Collins forced by famine to cut rations by one third.
- 1806 Settlers moved from York Town to Launceston area (Tamar estuary).
- 1807 Thomas Laycock's party crossed island overland from Port Dalrymple to Hobart. First Norfolk Island settlers shipped to Hobart in *Lady Nelson*.
- 1809 Governor William Bligh aboard *Porpoise* anchored in Derwent after N.S.W. mutiny and embarrassed Collins with problem of jurisdiction.
- 1810 Lieutenant-Governor Collins' death. Issue of the newspaper *Derwent Star*.
- 1811 Governor Macquarie's first visit to Tasmania.
- 1812 Lieutenant-Governor Thomas Davey arrived. Northern settlement at Port Dalrymple made subordinate to Hobart. *Indefatigable* brought first shipload of convicts direct from England.
- 1815 Hobart and Port Dalrymple declared free ports for import of goods. Davey proclaimed martial law against bushrangers. James Kelly circumnavigated island in a whaleboat.
- 1816 First issue of *Hobart Town Gazette*.
- 1817 Succession of William Sorell as Lieutenant Governor.
- 1818 Death of Michael Howe, notorious bushranger.
- 1820 Visit by John Thomas Bigge to conduct his enquiry into colonial administration.
- 1821 Second tour by Governor Macquarie.
- 1822 Penal settlement established at Macquarie Harbour.
- 1823 Passage of British Act 'for the better administration of justice in N.S.W. and Van Diemen's Land'.
- 1824 Inauguration of Supreme Court. Arrival of Lieutenant-Governor Arthur.
- 1825 First Launceston newspaper, the *Tasmanian and Port Dalrymple Advertiser*, established. Tasmania constituted a colony independent of N.S.W. Establishment of appointed Executive and Legislative Councils. Departure of Governor Darling from Tasmania left Arthur with the authority of Governor (but not the title).
- 1826 Van Diemen's Land Co. sent first party. Appointment of Commissioners of Survey and Valuation.
- 1827 Colonial Act passed for the regulation of the colonial press—disallowed. Lieutenant Governor received petition for trial by jury and some representation in Legislative Council.
- 1828 Passage of British Act 9 Geo. IV, cap. 83 which increased membership of Legislative Council. Martial law proclaimed against aborigines.

- 1830** George Augustus Robinson began his mission to conciliate the aborigines. First use of juries in civil cases. Beginning of the 'Black Line', the military campaign to round up the aborigines. First volume of *Quintus Servinton*, first novel to be published in Australia. Port Arthur established as penal settlement.
- 1831** Approval of British Government's new land regulations discontinuing free grants of land, and replacing them with land sales.
- 1832** First shipment of aborigines to Straits Islands. Establishment of the Caveat Board to settle land disputes and to confirm titles. Maria Island closed down as a penal settlement.
- 1833** Macquarie Harbour penal settlement closed down.
- 1834** Henty brothers from Launceston became first settlers in Victoria, occupying land in Portland Bay area.
- 1835** John Batman sailed from Launceston to Port Phillip as agent for the Port Phillip Association. Tasmania divided into counties and parishes. Opening of Ross Bridge. Population estimated as 40,172 persons.
- 1837** Arrival of Sir John Franklin and assumption of office as Lieutenant Governor.
- 1838** Sessions of Legislative Council opened to the public.
- 1840** Cessation of transportation to N.S.W., and consequent increase in numbers transported to Tasmania. Population estimated as 45,999 persons.
- 1841** Assignment System of convict discipline replaced by the Probation System. Rossbank Observatory for magnetic and meteorological observations established.
- 1842** Tasmania created a separate Anglican diocese. Hobart made a city. Peak year for convict arrivals (5,329).
- 1843** Recall of Sir John Franklin and succession of Sir John Eardley Wilmot.
- 1844** Transfer of Norfolk Island penal settlement from N.S.W. to Tasmanian control.
- 1845** Resignation of the 'Patriotic Six' members of the Legislative Council, opposing the heavy expenditure of colonial revenue for imperial police charges.
- 1846** Recall of Wilmot. Foundation of the Launceston Church Grammar and the Hutchins Schools.
- 1847** Succession of Sir William Denison. The Lieutenant Governor re-appointed the 'Patriotic Six', dispensing with those who had replaced them as Legislative Councillors.
- 1848** Tasmania now the only place of transportation in the British Empire.
- 1850** Foundation of the Anti-Transportation League. Population estimated as 68,870 persons.
- 1851** British Act 'for the better governing of the Australian colonies' reached Tasmania; provided for limited representative government. First elections for 16 non-appointed members of Legislative Council.
- 1852** First payable gold found near Fingal. Elections held for first municipal councils in Hobart and Launceston.
- 1853** Arrival of last convicts to be transported.
- 1854** Bad floods throughout colony. Passage of Bill establishing responsible government.
- 1855** Succession of Sir Henry Fox Young; title now Governor. British Government approved Constitution Bill.

- 1856 Name of Van Diemen's Land changed to Tasmania. Opening of new bi-cameral Parliament with W.T.N. Champ leading first government in the House of Assembly. Reorganisation of Police Department.
- 1858 Council of Education set up. Rural Municipalities Act passed.
- 1859 Charles Gould appointed to make geological survey of western Tasmania. Telegraph established as link with Victoria.
- 1860 Population estimated as 89,821 persons.
- 1861 Succession of Colonel Thomas Gore Browne. Telegraph cable to Victoria failed.
- 1862 Promotion of scheme for a railway between Launceston and Deloraine.
- 1864 Arrival of first successfully transported salmon ova.
- 1868 Visit by Alfred, Duke of Edinburgh. Bill passed making primary education compulsory.
- 1869 Succession of Charles Du Cane. Death of William Lanne, thought to be last male full-blood aborigine. Death of Sir Richard Dry. New cable laid to Victoria.
- 1870 Withdrawal of remaining Imperial troops. Population 99,328 persons (Census).
- 1871 Opening of Launceston-Deloraine railway.
- 1872 Contract concluded for building Main Line Railway.
- 1873 Main Line Railway construction begun. Tin discovered at Mt Bischoff. Start of economic recovery.
- 1874 Riots in Launceston in protest at rates levied for Launceston-Deloraine railway.
- 1875 Succession of Sir Frederick Weld.
- 1876 Race meetings established at Elwick. Gold nugget worth \$12,200 found at Nine Mile Spring. Death of Truganini, thought to be last female full-blood aborigine. Main Line Railway opened for traffic.
- 1877 Port Arthur closed down as a penal settlement.
- 1878 Increased activity in exploration of West Coast.
- 1879 Settlement of constitutional issue known as the 'Hunt Case'. Rich lode of tin discovered at Mt Heemskirk.
- 1880 First telephone in Tasmania with line from Hobart to Mount Nelson Signal Station.
- 1881 Purchase of three diamond drills by government for hire to private prospectors. Succession of Sir George Strahan. Population 115,705 persons (Census).
- 1882 Increased prospecting on West Coast.
- 1883 Discovery of the 'Iron Blow' at Mt Lyell.
- 1885 Russian war scare followed by activity in improvement of defences. Formation of Mt Lyell Prospecting Association.
- 1886 Adye Douglas, Tasmanian Premier and President of the Federal Council, spoke in favour of Australian republicanism.
- 1887 Succession of Sir Robert Hamilton.
- 1890 Establishment of University of Tasmania.
- 1891 Collapse of Van Diemen's Land Bank; deep economic depression. Population 146,667 persons (Census).

- 1892 Mt Lyell Mining Co. established.
- 1893 Succession of Viscount Gormanston.
- 1896 Establishment of Tattersalls Lottery by George Adams.
- 1897 Record shade temperature of 105.5° at Hobart on 30 December.
- 1898 Serious bush fires. Polling 4 to 1 by Tasmanians in favour of Federation.
- 1899 Departure from Hobart of *Southern Cross* (Borchgrevink) expedition to Antarctic.
- 1900 Departure of Tasmanian contingents to fight in the Boer War.
- 1901 Proclamation of the Commonwealth read. Polling for first elections to Federal Senate and House of Representatives. Visit of the Duke and Duchess of Cornwall and York. Succession of Sir Arthur Havelock. Population, 172,475 persons (Census).
- 1903 Celebration of 100 years' settlement cancelled because of smallpox epidemic in Launceston. Suffrage extended to women.
- 1904 Succession of Sir Gerald Strickland at reduced salary.
- 1905 Experiments in wireless telegraphy between Tasmania and the continent and between Tasmania and Hobart.
- 1906 Visit by Ramsay MacDonald (later British Prime Minister).
- 1907 New Public Library opened; built with gift from Andrew Carnegie.
- 1909 Succession of Sir Harry Barron. Potato crop wiped out by Irish blight. State's first Labor government under J. Earle.
- 1911 Population 191,211 persons (Census).
- 1912 Disastrous fire at North Lyell Mine, Queenstown.
- 1913 Succession of Sir William Ellison-Macartney.
- 1914 First aeroplane flight in Tasmania. Departure of first Tasmanian contingent to fight in Great War. Second State Labor government formed under John Earle. Formation of Hydro-Electric Department.
- 1915 Serious bushfires.
- 1917 Establishment of electrolytic zinc works at Risdon and of Snug carbide works. Succession of Sir Francis Newdegate.
- 1918 End of Great War.
- 1919 First export of frozen meat.
- 1920 Visit by Edward, Prince of Wales. Establishment of Cadbury's chocolate factory at Claremont. Succession of Sir William Allardyce.
- 1921 Population 213,780 persons (Census).
- 1922 Completion of Waddamana power station.
- 1924 Succession of Sir James O'Grady. First superphosphate manufactured by Electrolytic Zinc Co. at Risdon.
- 1925 Discovery of osmiridium fields at Adamsfield.
- 1927 Enquiry into proposed bridge over Derwent. Visit by Duke and Duchess of York.
- 1929 Serious floods throughout island. Establishment of automatic telephone system in Hobart. Beginning of economic depression.
- 1930 Export prices fell to half 1928 level. Australian pound devalued so that £ Sterling equalled \$A 1.25 (\$A 2.50).
- 1931 Depression continued—10 per cent cut in Federal basic wage. Initiation of austere Premiers' Plan. Conversion loan to reduce rate on internal Federal debt by 22½ per cent. Census of population deferred due to economic crisis.

- 1933 Census of population—Tasmania, 227,599 persons. Succession of Sir Ernest Clark. Commonwealth Grants Commission appointed to enquire into affairs of claimant States.
- 1934 Labor ministry of A. G. Ogilvie first in many years of continuous Labor governments. Second phase of hydro-electric development commenced at Tarraleah and Butlers Gorge.
- 1936 Tasmania linked with Victoria by submarine telephone cable.
- 1937 Epidemic of poliomyelitis. Economic recovery evidenced by \$0.50 'prosperity' loading added to Commonwealth basic wage.
- 1938 Paper mill using native hardwoods established at Burnie. First turbines began operating at Tarraleah power station.
- 1939 Outbreak of World War II.
- 1940 Tasmanians sailed for Middle East with Australian 6th, 7th and 9th Divisions.
- 1941 Newsprint production began at Boyer on the Derwent. Tasmanians sailed for Malaya with Australian 8th Division.
- 1942 Uniform Federal income tax commenced.
- 1943 The floating-arch Hobart Bridge opened for traffic.
- 1944 Pay-as-you-earn income taxation introduced from 1 July.
- 1945 End of World War II. Succession of Sir Hugh Binney.
- 1946 Cessation of man-power controls. Rejection by Legislative Council of bill to grant Federal Government price control powers for three years. Referendum gave Commonwealth power in regard to social services but refused power over marketing and employment. Crash of DC3 airliner at Seven Mile Beach with 25 deaths.
- 1947 Census of population—Tasmania, 257,078 persons. Federal arbitration decision favouring 40-hour week. Court action to stop bank nationalisation by Federal Government. Demobilisation of forces completed. 'Displaced persons' commenced arriving from Europe.
- 1948 Forty-hour week awarded to most workers from 1 January. Tasmanians voted 'No' almost 2 to 1 in referendum denying Federal Government power over prices and rents. State price and rent controls introduced. State Premier resigned but soon re-instated in office. Hobart's Ocean Pier gutted by fire. Hydro-electric capacity exceeded one-quarter million horsepower. Legislative Council's denial of supply forced dissolution of House of Assembly—Cosgrove ministry returned to power. High Court ruled against bank nationalisation. Abolition of toll on Hobart Bridge.
- 1949 Compulsory X-ray introduced in fight against tuberculosis. Saturday morning closing of banks. Clark Dam at Butlers Gorge completed. Theatre Royal purchased by Government. Repco Bearing Co. officially opened at Launceston. Construction begun on Bell Bay aluminium plant. Port of Hobart held up by 29-day strike; coal supplies cut off by major strike on N.S.W. coalfields and at Tasmanian mines. Sterling devalued by 30.5 per cent and Australian pound similarly devalued. Outbreak of poliomyelitis caused cancellation of Hobart Show. Federal Labor government defeated at elections and Liberal government installed.
- 1950 End of Federal petrol rationing. Dissolution of House of Assembly granted by Governor and Cosgrove ministry returned to power. Federal child endowment extended to cover first child. Invasion of

- South Korea and recruiting of volunteers for Australian contingent. Federal basic wage increase of \$2.00 followed by State Wages Boards. Communist Party Dissolution Bill passed by Federal Parliament. Control of State meat prices abandoned.
- 1951** Serious bushfires in January and February. Succession of Sir Ronald Cross. Electric power rationing introduced due to prolonged drought. Communist Party Dissolution Act declared invalid by High Court. Double dissolution of Federal Parliament. Part of Macquarie Harbour frozen over on 2 July. Hobart Federal basic wage increased from \$16.50 (February) to \$19.90 (November). First intake of National Service trainees entered Brighton camp. Referendum to give Commonwealth powers in regard to communism—'No' vote prevailed although Tasmanians expressed slight preference for 'Yes'. Announcement of drastic Federal anti-inflation budget—economic effects of record wool prices and the Korean war becoming apparent.
- 1952** Inflation continued—Hobart Federal basic wage rose from \$20.80 (February) to \$23.00 (November). Death of King George VI—reign of Queen Elizabeth II. Balance of payments in jeopardy, Federal import licensing introduced. Single licensing authority established for hotels, clubs, etc. Formal end to occupation of Germany and Japan. First woman elected to Hobart City Council. Two women elected to Legislative Council. Bad floods in Derwent Valley. Artificial lake, King William, filled to capacity. State free hospital scheme ceased on acceptance of Commonwealth insurance scheme. State Racing Commission established. Rejection by Legislative Council of bill to give State aid to private schools. Butlers Gorge power station began operating.
- 1953** Inflation continued—Hobart Federal basic wage rose from \$23.20 (February) to \$24.20 (August). In September, Court abandoned system of quarterly adjustment of Federal basic wage. Special Premiers' conference discussed return of income tax powers to States but no action followed. Tungatinah power station began operating. Breakaway left wing labour group contested Senate election in Tasmania without success. Armistice in Korea. Announcement of transfer to Victoria by Tattersalls Lottery. Price control of meat re-introduced. Bad storm temporarily closed Hobart Bridge. State Wages Boards decided to follow Federal Court in suspension of quarterly basic wage adjustments. Licence granted to new lottery to operate in place of Tattersalls.
- 1954** Hobart Bridge closed temporarily due to pontoon flooding. Royal visit by Queen in liner *Gothic*. Completion of Trevallyn tunnel for hydro-electric power. Menzies government re-elected. Bad flood in South with much damage in Hobart Rivulet area. Rationing of electric power ended. Centenary of Hobart newspaper, the *Mercury*, celebrated. Bill to increase House of Assembly to 35 members defeated in Legislative Council. Hobart City Council decided to install parking meters. Census of population—Tasmania, 308,752 persons. State prices control organisation disbanded. Federal Arbitration Court awarded margins based on two and a half times their 1937 level. Bill passed to resolve deadlocks in House of Assembly. Foundation of Metropolitan Transport Trust.
- 1955** Nubeena suffered damage from tidal wave. Uranium ore discovered at Mt Balfour and Royal George. Bell Bay aluminium plant officially opened. Cosgrove ministry returned to power without effective majority. First women (two) elected to House of Assembly. Australia's

first capital city parking meters installed in Hobart. Trevallyn turbines started operating. Tungatinah scheme officially opened. Anti-Communist Labour Party (later the D.L.P.) formed in State. Hadleys Hotel (or \$280,000) offered as prize by Tasmanian Lotteries. Drastic cut in imports enforced under Federal licensing provisions. State visited by Earl of Home (later British Prime Minister). Tasmanian Lotteries announced \$500,000 prize for sweep. Tasmania's first woman mayor (Launceston). Menzies government re-elected. Three hundred whales stranded near Dunalley.

- 1956** State Wages Boards' restoration of 'cost-of-living' adjustments effective from 1 February. Watersiders strike at Tasmanian ports for 22 days. Mile-long Wayatinah tunnel bored through for hydro-electricity. Tasmanian Lotteries announced \$1,000,000 prize for sweep. Passage by Legislative Council of long-service leave bill. Bad floods State-wide in May. Federal Court increased basic wage \$1.00. State granted \$2.60 increase to own employees. State Wages Boards again suspended cost-of-living adjustments. Deadlocked Premiers' Conference failed to agree on uniform wages policy as counter to inflation. Minister for Housing joined Liberal Party, depriving State Government of its majority. Sir Ronald Cross flew from Colombo and granted dissolution of House of Assembly. Labor returned to power in State. Official opening of E.Z. Co's sulphate of ammonia plant. Centenary of self-government celebrated. Trevallyn power scheme officially opened.
- 1957** Helicopter pilot claimed to see Tasmanian tiger in remote south-west. Extensive bushfires in January. High level bridge design approved for Derwent. Parking meters introduced in Launceston. 88-year-old Mt Nicholas coal mine closed down in Fingal Valley. Legislative Council rejected bill giving aid to private schools. Serious recession in timber industry. Substantial relaxation of Federal import curbs. First fall for three years in 'C' series index (March quarter). Federal court increased basic wage \$1.00. National service intake lowered and selection determined, in part, by ballot system. Clarence rate payers voted to replace elected Council with appointed Municipal Commission. High Court upheld principle of uniform income tax (challenged by Victoria and N.S.W.). Severe flooding in Hobart. 'Comprehensive High School' policy announced. First space satellites—Sputniks I and II—seen over State. Keel laid of *Princess of Tasmania*. Commonwealth announced greater financial aid to Universities, following Murray Report. Centenary of Hobart's incorporation celebrated.
- 1958** Water restrictions in Glenorchy and Launceston. Visit by Queen Mother. Water restrictions in Hobart. Federal Ministry accepted second defeat of banking legislation in Senate without calling for double dissolution. Unsuccessful agitation by churches and other bodies for re-opening of Orr case. Federal court increased basic wage by \$0.50. Bad floods in Derwent Valley. Police guarded Hurseys working on docks following Court order. Establishment of Rivers and Water Supply Commission. Viscount prop-jets introduced on Bass Strait routes. Four-mile-long Liapootah tunnel bored through for hydro-electricity. Mr Cosgrove succeeded by Mr Reece as Premier. Number of Supreme Court judges increased to five. Commercial licence granted to Tasmanian Television Ltd. Completion of Hobart's Olympic Pool. Menzies government re-elected. Public Service Tribunal established as industrial authority. *Princess of Tasmania* launched.

- 1959** Hobart temperature 105° on 20 January. Extensive bushfires. New licensing Act further restricted Sunday drinking. New system of increased Commonwealth grants for State roads. Dissolution of House of Assembly. State visited by discoverer's descendant—Herman Abel Tasman. First election to fill 35 seats in House of Assembly; Labor re-elected. Succession of Lord Rowallan. Federal Court awarded \$1.50 increase in basic wage. New Commonwealth system of grants reduced claimant States to two—Tasmania and W.A. High Court verdict in Hursey case upheld right of unions to strike levies for political purposes. *Princess of Tasmania* commenced roll-on roll-off ferry service Melbourne to Devonport. One-way street traffic plan introduced in Hobart. Visit by Earl Attlee (ex-Prime Minister of Britain). Brooker Highway open for traffic between Elwick Road and Cleary's Gates. Water restrictions in Glenorchy and Kingborough. Suspension of National Service training. Federal Court granted 28 per cent increase in margins. Tender accepted for new bridge across Derwent to be finished in three years. Severe hail damage to Huon Valley orchards.
- 1960** Sustained heatwave in January. Liapootah turbines started operating. Kingborough Council replaced by Municipal Commission. Poatina road gave new access to Great Lake. Zeehan-Strahan railway closed. Federal import controls virtually abolished. Tasmanian Industrial Mission visited U.K. and Europe. First meeting of new body, Inland Fisheries Commission. TV stations ABT2 and TTV6 started programmes from Mt Wellington transmitters. Federal Court refused basic wage increase. Severe floods in central Hobart and Derwent Valley; flood relief fund opened for victims. In football, Tasmania defeated V.F.L. Macquarie No. 1 wharf officially opened on site of gutted Ocean Pier. Tasmanian Military Command Headquarters reduced in status. Construction begun of board mills at Wesley Vale. Tasmanian Lotteries surrendered licence and Tattersalls arranged ticket sales within State through agents. Negotiations begun for sale of Commonwealth interest in Bell Bay aluminium plant. State Parliament ignored committee's report recommending increased members' salaries. Royal Flying Doctor Service commenced in State. Australian 'give way to right' rule introduced. Last Hobart trams ceased running. Inflationary situation developing; drastic Federal counter-measures. *Bass Trader*, a trailer-container vessel, launched. Hobart Gaol vacated, the new prison being at Risdon.
- 1961** High temperatures and widespread bushfires; water restrictions in many areas. Government initiated plan for bulk water supplies to west bank of Derwent. *Bass Trader* commenced service to Melbourne from northern ports. Concern at growing unemployment followed by easing of Federal credit restrictions in June. Census of population—Tasmania, 350,340 persons. Carpet factory opened at Devonport. Rosebery-Tullah road officially opened. Federal court increased basic wage \$1.20. *William Holyman*, cargo container vessel, entered Bass Strait trade. Matriculation college policy announced. Construction started for Hobart-Sydney ferry terminal. Consumer price index (September quarter, six capitals) showed first drop for four years. Establishment of Metropolitan Water Board. First headmistress of a State secondary school appointed. Savage River iron ore samples tested in U.S. furnaces. Legislative Council rejected equal pay legislation. Menzies government returned to power with majority of two seats; a Tasmanian independent won seat in Senate.

- 1962 'Sputnik' dredges banned from Channel scallop beds. Power boat licensing introduced for south and east coasts. Board of enquiry reported adversely on prospects of thermal power generation in Fingal Valley. Sweeping Federal measures in February to stimulate economy; special grants for State works programmes. Compulsory third party insurance expanded to give passenger cover. Federal Court refused basic wage increase. Expansion programme begun at Bell Bay aluminium plant. First Professor of Agriculture appointed. Butter oil production commenced at Deloraine. Official opening of ferro-manganese plant at Bell Bay. Catagunya turbines began producing electricity. Official opening of TNT9 (northern commercial TV). State Wages Boards granted three weeks' annual leave. Federal Treasurer announced Tasmania to receive employment stimulation grant of \$2,336,000. Roster system introduced for 'out of hours' petrol sales. State visit by King Bhumibol and Queen Sirikit of Thailand. Keel laid of *Empress of Australia*. State subsidies announced for municipal fluoridation schemes. Closure of Mt Lyell Railway, Queenstown to Strahan. Wood pulp production commenced at Geeveston. State branch of Country Party formed. Water pumped direct from Derwent at Bryn Estyn to Berriedale (West Derwent Water Scheme). End of metropolitan water shortages in sight.
- 1963 Electra flew Hobart to Melbourne in 55 minutes. Speed limit in built-up areas increased from 30 to 35 mph. Collapse of negotiations for Britain's entry into Common Market. Visit by Queen to Royal Hobart Regatta. Abolition of State entertainments tax. Succession of Sir Charles Gairdner. Official opening of St Helens aerodrome. Federal court increased margins 10 per cent and granted three weeks' annual leave. New consolidated Local Government Act effective from 1 July. National TV (ABNT3) started operating in north. Trans-Derwent ferries ceased operating. Uniform marriage laws operative from 1 September. Tasmanian fishermen began exploitation of Port Phillip Bay scallops. Universities Commission recommended medical school for Tasmanian University. Federal Government granted \$5,000,000 for road to Gordon River. Federal Government rejected request for aid for thermal power station in Fingal Valley. Hydro-Electric Commission imposed power cuts on industrial consumers due to prolonged drought. *Seaway Queen*, trailer and container ship, launched. Menzies government returned with substantial majority. Opening of Murchison Highway linking west and north-west coasts. Offer by University Council of \$32,000 to Mr Orr; resignation of Chancellor and some other Council members.
- 1964 Launching of *Seaway King*, roll-on roll-off vessel. T.A.A. commenced intra-State air services. Launching of *Empress of Australia*. Poatina turbines commenced electricity generation; industrial power cuts ended. Alginate plant began operations on east coast. Strahan airport completed and first used by Japanese examining Savage River iron ore. Country Party nominated candidates for State election. Labor re-elected at State elections with effective majority. Federal court reduced long service leave qualifying period from 20 to 15 years. *Seaway Queen* began Melbourne-Hobart operations. Federal court increased basic wage \$2.00, rejecting employers' total wage concept. Shannon power station closed down. Severe flooding in Launceston area. Federal grants to private home builders made available. B.H.P. granted licence to explore minerals in remote south-west. Tasman Bridge opened for traffic and Hobart Bridge towed away. *Seaway King* began Sydney-Hobart operations. Forestry works extended in

Fingal Valley as counter to coalminers' unemployment. Increase in State parliamentary salaries determined by Parliamentary Salaries Tribunal. Abolition of 'junior minister' status in State Cabinet. State subsidies for electric power in remote localities abolished. H.E.C. 'mole' used to widen railway tunnel at Rhindaston. Hobart's water supply fluoridated. One-way street scheme introduced in Launceston. Tasmania re-established as separate Army Command. Glenorchy raised to city status. Compulsory National Service on selective basis introduced. Recommendations for metropolitan expressways announced as part of official transportation study. Pickands Mather and Co. International (U.S.A.) and Mitsubishi Shoji Kaisha Ltd agreed to joint investigation of Savage River iron ore deposits.

- 1965** *Empress of Australia* sailed from Sydney on first voyage to Hobart. System of provisional driving licences introduced. Geeveston wood pulp expansion programme announced. Savage River iron ore sent to U.S.A. for grinding tests. Contract let to raise Great Lake level by new Miena Dam. Tasmanian Churchill Scholarship appeal raised \$232,000. Dental nurse scheme for schools announced. Abalone fishing stepped-up. Visit by Archbishop of Canterbury (Dr Ramsey). Discovery of off-shore natural gas near Gippsland coast of Victoria. Battalion of Australian troops sent to South Vietnam. Report by State Royal Commission on prices and restrictive trade practices. Sorell and Midway Point connected to metropolitan water supply. Expansion programme announced for Boyer newsprint mills, capacity to increase by 70,000 tons. D'Entrecasteaux scallop beds closed for 1965 season. First Tasmanians called up under new National Service scheme. New Shops Act extended Saturday morning closing to Hobart's eastern suburbs as from 1966. Full report on Hobart transportation study released. Very severe drought in most continental States. Commonwealth Conciliation and Arbitration Commission increased total award wage 1.5 per cent, the rise being credited to the margin, not the basic wage. Waddamana 'A' power station closed down. West Coast viewers received TV from translator stations on Mt Owen and Mt Read. Bass Strait oil drilling commenced. Expansion of ferromanganese plant at George Town announced. State budget increased driving licences, land tax, stamp duties and racing taxes. Geeveston wood pulp capacity raised to 48,000 tons with 75,000 tons as target. Announcement of projected plant at Wesley Vale to produce paper on same scale as present plant at Burnie. Licence given for phosphate search in far north-west. Increase in air fares. Report of Municipal Commission recommended reduction of local government authorities from 49 to 20. Three-year expansion programme commenced at Boyer newsprint mills—production to lift from 93,000 tons to 165,000 tons. Expansion programme announced for George Town aluminium plant—annual capacity to be lifted from 54,000 tons to 71,000 tons. Australian woolgrowers voted 'No' in referendum on Reserve Price Scheme; Tasmanians voted marginally 'Yes'.

- 1966** *Freya* won Sydney-Hobart race in record actual time (4 days, 6 hours, 23 minutes). Another vessel like *Princess of Tasmania* to be built for Bass Strait ferry service. Offshore natural gas discovered at new site in Victorian waters. Sir Robert Menzies retired and Mr Holt became Prime Minister. Japanese fishing south of Hobart commenced frequent visits to port. Flinders Is. electricity plant destroyed by fire. Dental nursing school opened. Decimal currency introduced on 14 February 1966. Railton cement works announced \$4m expansion

programme. Hobart airport to be developed for pure jet travel. Savage River workers declared eligible for taxation zone allowance. Bad fires in Derwent, Huon and Arve Valleys. Acrylic yarn plant to be built at George Town. Advanced College of Education announced for Hobart (to cost \$2m). Tamar River made navigable for large ships at night. Burnie-Launceston co-axial cable completed. New Queenstown airport opened officially. Renison Bell to process tin with Capper Pass fuming method. Hail insurance paid to apple growers approached \$1m. Hobart gas works used oil after 112 years' production based on coal. Contract let for construction of Port Latta. Savage River agreements involving \$62m signed. Contract let for \$3m State Government offices. West Coast viewers received national telecasts via translator stations. Equal pay for certain females in Public Service contained in State Act. Breathalyser tests approved for use by police. Census of population—Tasmania, 371,435 persons. Tin production at Mt Cleveland to expand, following State Government guarantee of \$1m development loan. Workers' compensation extended to cover travel to and from work. Commonwealth Conciliation and Arbitration Commission increased basic wage by \$2. Sunday observance dispute; Victorian Q.C. appointed as board of enquiry. Limit on co-operative building society loans raised to \$8,000. Shipping rates to Britain increased 6.4 per cent. Air fares rose 3 per cent. Huge copper reserves discovered in Mt Lyell area. State budget lifted commercial vehicle taxation as much as 50 per cent; private vehicle taxation about 15 per cent. H.E.C. programmes accelerated and some other public works deferred. Companies Act amended to increase protection for investors. Mr Lyons M.H.A. resigned from Liberal Party; later formed Australian Centre Party with Country Party backing. Huge floating crane towed from U.S.A. to Port Latta. Launceston airport's new passenger terminal officially opened. Holt Liberal Government returned to power with record majority; Tasmanian representation remained 3 A.L.P., 2 Liberal. Direct dialling to Melbourne provided for inner Launceston subscribers. Commonwealth Public Service removed marriage as bar to permanent employment of women. Lake Meadowbank filled; artificial lake created by Hydro-Electric Commission. Commonwealth Conciliation and Arbitration Commission, in interim margins case, gave increases based on total wage (ranging from 1 per cent to 2.5 per cent).

- 1967 Thirty-foot sloop *Cadence* won Sydney-Hobart race. Longford abattoirs to start \$0.5m expansion. Air Vice-Marshal Ky of S. Vietnam visited Australia. Damage in south with gusts to 81 mph. Board of Inquiry suggested more liberal Sunday observance legislation. Bush fire disaster of 7 February resulting in 62 deaths. Tasmanian bale of wool brought record price of 760 cents per lb. Fire looter gaoled for six months. First rebuilt home occupied 18 days after its destruction. H.R.H. the Duke of Edinburgh visited disaster areas. Breathalyser tests measuring drivers' blood alcohol content introduced. Pardoe Beach at Devonport mass grave for 150 sperm whales. Smithton additional base for Flying Doctor Service. Tunbridge water-supply failed. Chief Guide, Lady Baden-Powell, visited State. Lambs killed in devastated areas for want of fodder. Four months to April driest in Hobart since 1840. Senate rejected Federal Government's attempt to raise postal charges. Housing grants to fire victims liberalised by Federal Government. Chief Justice of Tasmania appointed to head second *Voyager* Royal Commission (Federal matter). Petition presented against a proposal to flood Lake Pedder as part of Gordon

History and Chronology

hydro-electric scheme; plan for thermal station at Bell Bay also announced. Federal referendum held on two proposals: (i) to break 2:1 ratio between House of Representatives and Senate; (ii) to remove constitutional impediments to Aboriginal welfare; first proposal defeated, second proposal carried. Federal Arbitration Commission abolished basic wage concept, substituted total wage concept and awarded \$1.00 increase to males and females. Israel defeated Arab nations; closure of Suez Canal trapped some Tasmanian apple shipments. Luina, new 61-home township near Waratah, finished for Mt Cleveland tin mines. Drought broken with good rains in July. State Wages Board in test case gave \$1.00 increase to males and females but retained basic wage concept for the present. Scallop beds in D'Entrecasteaux Channel opened for one month's trial. £-s-d currency no longer legal for making contracts, etc. Hydro-electric water reserves down to 16 per cent due to sustained drought in catchment areas. Cabinet decided to introduce daylight saving legislation to conserve power. Industrial power rationing with 25 per cent cuts to operate from 1 October. Contract for \$0.9m off-street parking station let in Hobart. Federal Government to erect 50 migrant reception flats in main centres. Legislative Council consented to bill authorising Gordon River hydro-electric scheme and Bell Bay thermal station. Mt Lyell Co. purchased three oil-fired generators for emergency power production. Liberalised Licensing Act proclaimed, lowering drinking age to 20 years, licensing restaurants and taverns, extending hours on Fridays and Saturdays, etc. Daylight saving legislation to operate from 1 October. No tax increases in State budget. Higher electricity charges introduced. Federal budget increased postal charges. Parliamentary Salaries Tribunal increased members' rates. Federal Trade Practices Act operational from 1 October. Purchase of N.Z. ferry *Hinemoa* to feed 10,000 kW into grid and to accommodate Bell Bay thermal station construction workers. Change in Special Grant calculation; four State standard to operate in 1970. S.T.D. (improved telephone system) linked Hobart to Melbourne. Street lighting reduced to save power. A third battalion provided for Vietnam. Savage River iron ore passed as slurry to Port Latta. U.K. devalued pound sterling by 14.3 per cent; Australia did not devalue so \$A equivalency changed from £ sterling 0.4 to 0.465. Hobart concert by combined Sydney and Hobart symphony orchestras. Senate election result in State: two Liberal, two A.L.P., one independent. Bulk electricity supplies cut 35 per cent from 1 December; domestic users to reduce consumption by 20 per cent. Legislative Council defeated price control measure. Deadlock between two Houses resulted in end of legislation controlling shop hours. Arbitration Commission gave work value award in Federal metal trades case; suggestion that increases could be absorbed where overaward payments in operation. Sixty mph driving limit introduced. Union challenge of total wage concept defeated in Full High Court. Australian Prime Minister, Mr Harold Holt, disappeared while swimming off Victorian coast.

1968 See Appendix B at end of book.

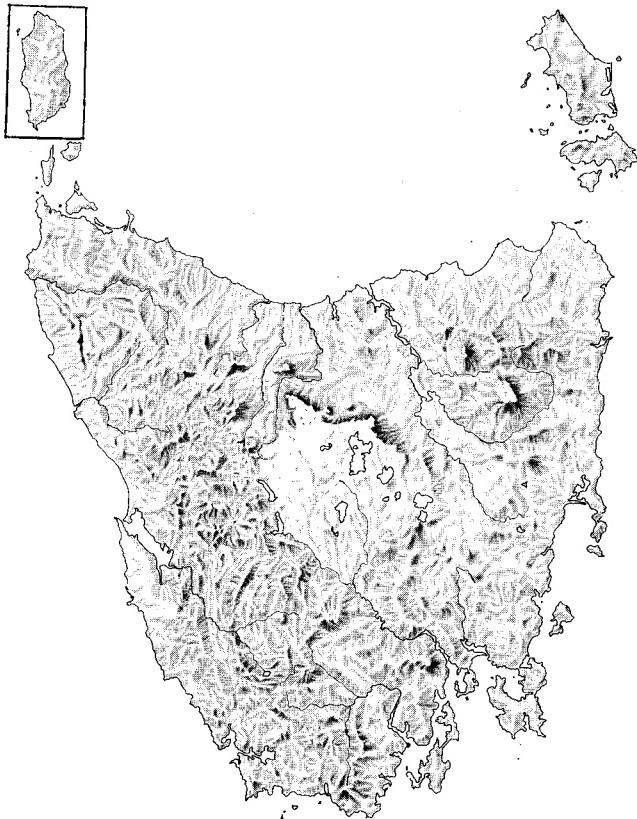
Chapter 2

PHYSICAL ENVIRONMENT

GENERAL DESCRIPTION

Location and Area

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian continent; the major island is called Tasmania and the more important of the lesser islands include King, Flinders and Bruny. The major island, roughly heartshaped with the greatest breadth in the north, extends from $40^{\circ} 38'$ to $43^{\circ} 39'$ South latitude and from $144^{\circ} 36'$ to $148^{\circ} 23'$ East longitude. All the coastline lies in the Southern Ocean except in the north where Bass Strait separates the island from the Australian continent by approximately 150 miles.



Relief Map

The area of the whole State, including the lesser islands, is 26,383 square miles or about 0.9 per cent of the area of the Australian Commonwealth (2,967,909 sq. miles); it is just under one third the size of Victoria, the smallest continental State.

Australia, extending as it does well north of the Tropic of Capricorn and with much of its area in the zone of the sub-tropical anti-cyclones, is basically a warm, dry continent. By way of contrast, Tasmania is in the temperate zone and practically the whole island is well watered with no marked seasonal concentration; there are no deserts or drought areas as found extensively on the adjacent continent. Because Tasmania is the most southern State of the Commonwealth, there is a tendency to think of it as being close to the Antarctic but its latitude is matched, in the northern hemisphere, by that of Marseilles (France), and Boston (U.S.A.). In addition, the fact that Tasmania is an island shelters it from the extremes of heat and cold experienced in these two centres. The effect of its insular position is illustrated by the variation between summer and winter mean temperatures in coastal towns—this rarely exceeds 15°F. Comparing Hobart (Tasmania) with Melbourne (Victoria), mean maxima are some 6° warmer and mean minima 3° warmer in the Victorian capital although Hobart enjoys slightly more sunlight as it is subject to less fog.

Apart from the Great Dividing Range in the east, Australia is predominantly a land of low plateau and plains with little relief. By way of contrast, Tasmania could legitimately be called the island of mountains, since it has the largest proportion of high country in its total area when compared with the other States. The distinctive feature of the island is not so much the size of the mountains—few exceed 5,000 feet—but rather the frequency with which they occur. The British Admiralty Pilot Book describes Tasmania as ‘probably the most thoroughly mountainous island on the globe.’

Population Distribution

With a population of about 380,000, Tasmania is still thinly populated although its density of 14 persons per square mile is exceeded only by Victoria among the Australian States. Asian comparisons are Japan, 700 persons per square mile; China, 210; Indonesia, 190.

A marked characteristic of the continental States of the Commonwealth is the very high concentration of population in their respective metropolitan areas, Brisbane providing the only example where this concentration falls below 50 per cent of the State's total population. By way of contrast, the Tasmanian population is concentrated in two main areas: (i) Hobart Metropolitan Area with about 32 per cent, and (ii) Urban Launceston with about 16 per cent. This deviation from an Australian pattern is partly explained by the relative proximity of Launceston to the principal mainland markets, a factor also operating in favour of the north-western towns of Burnie-Somerset and Devonport which together now contain a further 9 per cent of the State's population. As might be expected with an island, the main centres of population have grown up around ports.

Economic Development

In the nineteenth century, the basic economic activities were farming, mining, forestry and fishing (with whaling of prime importance in the first half of the century). In the twentieth century, evolution of secondary industry was at first inhibited by two major factors—the smallness of the local island market and the relative advantage enjoyed by competitors located closer to the principal markets. There were, however, two geographical features of the island

which could be utilised to offset these disadvantages, namely a mountainous terrain and an assured rainfall. Taken together, these two factors mean cheap electric power (if the necessary investment is made in dams and generating stations), for it has been estimated that Tasmania has at least 50 per cent of the total Australian hydro-electric potential. In the last three decades, the State Hydro-Electric Commission has developed a generating system such that the turbines now in use are rated at 1.25 million horsepower, and work is still proceeding on harnessing fresh sources. Some indication of the tremendous potential still to be tapped is found in the fact that, apart from Lake Margaret, no use has yet been made of the water resources of the West Coast where the island experiences maximum rainfall. The abundance of cheap electric power has led to the establishment of a number of major industrial plants and has transformed the island's economy, which was once heavily dependent on primary industry. Evidence of this change is given by the Census of 30 June 1966 when 11.69 per cent of the Tasmanian work force was shown as engaged in 'Primary Production' but 23.05 per cent in 'Manufacturing'. Compared purely on the basis of these two percentages, Tasmania is, relatively speaking, a more industrialised State than Queensland or Western Australia.

An island, by definition, can suffer from isolation and there is little doubt that Tasmania has been handicapped by transport difficulties. Two developments are now operating to minimise the effects of isolation—regular and frequent air services and roll-on roll-off ferries. The pure-jet air service puts a Tasmanian traveller down in Melbourne in one hour's flying time or less from Hobart, while cargoes are air-freighted daily. Roll-on roll-off ferries are playing the part of a bridge and are carrying tourist cars and loaded road freighters across Bass Strait; the main terminal is Melbourne but a similar direct Sydney link now operates.

Origin of Population

Apart from natural increase, the chief source of the island's population has been the British Isles. At the Census of 30 June 1966, 96 per cent of the people in the State were recorded as having been born in Tasmania, other parts of Australia, the British Isles and New Zealand. The other main countries of birth were the Netherlands, Germany, Poland, Italy, Yugoslavia and Greece, in that order. The Census also showed 71,000 persons with a Tasmanian birthplace on the Australian mainland, but only 33,000 persons with a mainland birthplace in Tasmania; the long-term tendency has been for the migration of Tasmanians to the mainland to exceed the migration of 'mainlanders' to Tasmania.

PHYSIOGRAPHY

Introduction

Tasmania is an island of mountains and is unique among Australian States in being predominantly influenced by polar maritime air masses. From the point of view of settlement and development, these two factors have combined to create assets against which must be weighed certain liabilities. The island, a mere 180 miles from north to south and 190 miles from east to west, concentrates in small compass an amazing variety of mountain, plateau and plain, of river, lake and tarn, of forest, moorland and grassland, of town, farm and uninhabited, even virtually unexplored country. The temperate maritime climate partly explains Tasmania being called the most English of all States but other factors operate to heighten the comparison—the pattern of agricultural settlement with orchards, hedges and hopfields; the Lake country; the early freestone

architecture still common in the east; the roads and villages dotted with oaks, elms and poplars. Here, then, is something new for the visitor to see and all the natural assets for a flourishing tourist industry have been amply provided. Assured rainfall and mountain storages have also given birth to massive development of hydro-electric power and, indirectly, to industry. The growth of forests, too, is promoted by suitable factors of rainfall and temperature, and this forms the basis for industries such as timber-milling and newsprint and other paper production.

The mountainous nature of the island is confirmed by survey which shows six features exceeding 5,000 feet, 28 exceeding 4,000 feet and a further 28 exceeding 3,000 feet. The highest mountain is Mt Ossa (5,305 feet) some ten miles north-west of Lake St Clair, and north-west again from this peak lie Mt Pelion West (5,100 feet), Barn Bluff (5,114 feet) and Cradle Mountain (5,069 feet); the furthest distance, 15 miles, is from Mt Ossa to Cradle Mountain. In the Ben Lomond area, the principal features are Legges Tor (5,160 feet) and about six miles south, Stacks Bluff (5,010 feet). Each of these mountainous regions and a number of others have been set aside as National Parks and Ben Lomond is renowned for its winter sport.

Water Resources and Rainfall

Fresh water navigation has played very little part in the island's development, the rivers being too fast-running, too shallow or too short. Of the four major ports, three are located on tidal estuaries—Hobart on the Derwent; Launceston on the Tamar; Devonport on the Mersey (Burnie has built a port on the open sea protected by breakwaters). Rivers, however, are significant in the Tasmanian scene for three reasons: (i) use of headwaters for electricity generation, (ii) domestic and industrial water supply, (iii) irrigation, although there are no major schemes, either private or government, in operation. Hobart, for example, draws much of its water supply direct from the upper Derwent River without use of a dam and the flow is adequate to serve a population at least ten times greater than that at present. The development of hydro-electric power has been based on full utilisation of the sources and tributaries of the Derwent, with a chain of power houses stretching from Poatina on the Great Lake to Meadowbank only 32 miles from Hobart. At Launceston, too, the waters of the South Esk have been harnessed at Trevallyn. This does not exhaust the possibility of future development and work is proceeding to exploit the Mersey-Forth system (north-west) and the Gordon-Serpentine system (south-west); the first of the north-west power stations, Rowallan, began operating in 1968.

The exceptional drought experienced in some areas in 1967 and early 1968 does not invalidate the general truth of previous statements about assured rainfall.

As a liability must be entered the fact that large areas of the State cannot be cultivated because there is too much rainfall (in contrast with the mainland of Australia where often the reverse situation applies). Further, the mountainous terrain and accompanying highland climate have restricted farming to relatively small areas of suitable country, mainly river valleys, coastal plains and the lower plateaus. In 1966-67, farm statistics showed that 39 per cent of the State's area was occupied by rural holdings. Only 3.7 per cent of the area of rural holdings was under crop and a further 27 per cent under clover and grasses (other than native). The remaining 69 per cent of rural holdings included bush runs, uncleared scrub or possibly land unsuitable for any rural purpose at all. A high proportion of the State's area not included in rural holdings is composed of forests, national parks and lakes.

Population Centres

The distribution of the State's population is largely influenced by factors of terrain and climate. A convenient way to summarise the present pattern of settlement is to imagine three circles of 25 mile radius centred on Hobart (representing the south-east), Launceston (the north) and Ulverstone (the north-west): (i) with Hobart as centre, 42 per cent of the Tasmanian population is located within the 25 mile circle, (ii) with Launceston as centre, 22 per cent, (iii) with Ulverstone, 17 per cent. Since all circles are exclusive of each other, these three defined areas will together contain more than 81 per cent of the State's population and this fact justifies the generalisation that the main settlement is in the south-east, the north and the north-west. Residual population not included in the three defined areas is mainly located in the more distant north-west and more distant north-east, in the midlands between Hobart and Launceston, on King and Flinders Islands and along the east coast. Even a 50-mile circle with Queenstown as centre includes only four per cent of the State's population and here the activity is mining, not farming, since this is predominantly an area of high mountains and heavy rainfall. The south-west is completely uninhabited and the central plateau where the main activities are summer grazing and hydro-electric power generation, is very thinly populated.

Physiographic Regions

To explain this particular pattern of settlement, it is necessary to isolate the various physiographic regions of the State as follows:

Central Plateau: The main feature is a relatively undissected, dolerite-capped plateau sloping generally south-eastward from an average level of 3,500 feet in the north to 2,000 feet in the south, and drained almost wholly by the Derwent system (although recent hydro-electric development has involved diversion of some waters to the north at Poatina). The northern and eastern boundary of the Plateau is the Great Western Tiers (paradoxically named since they lie in the central north of the island). This is known as the Lake country of the island and is the chief source of the State's hydro-electric power.

High Dissected Plateau: West of Lake St Clair, the dolerite caps steeply tilted sediments and the plateau is much dissected; it is formed of a series of peaks and broken ridges. The coastlands in the extreme south of the region are rugged but in the D'Entrecasteaux Channel and Huon River areas, narrow coastal belts have been devoted to specialised agriculture.

Western Ranges: The high dissected plateau is bounded by a mountainous series of ranges running parallel to the west coast and in this region are located the principal mines of the State. The south of the region is completely uninhabited except for construction workers on the Gordon scheme.

Western Coastal Platforms: Throughout almost the entire length of the west coast, an uplifted and much dissected peneplain slopes down westward from about 900 feet to end abruptly in cliffs more than 100 feet high. In the south of this region, superhumid button grass plains predominate, and the area is uninhabited. On the coastal plain south of the Arthur River, however, dairy cattle are wintered on agistment runs while north of the river dairying begins to appear and swamps formed by recent emergence have been cleared for farming.

North-West Plateau: North of the Western Ranges lies a plateau averaging nearly 2,000 feet and important mainly for forestry; the coastlands derive mainly from basalt, giving rise to intensive mixed farming based on dairying, potatoes and crops for canning, such as peas and beans.

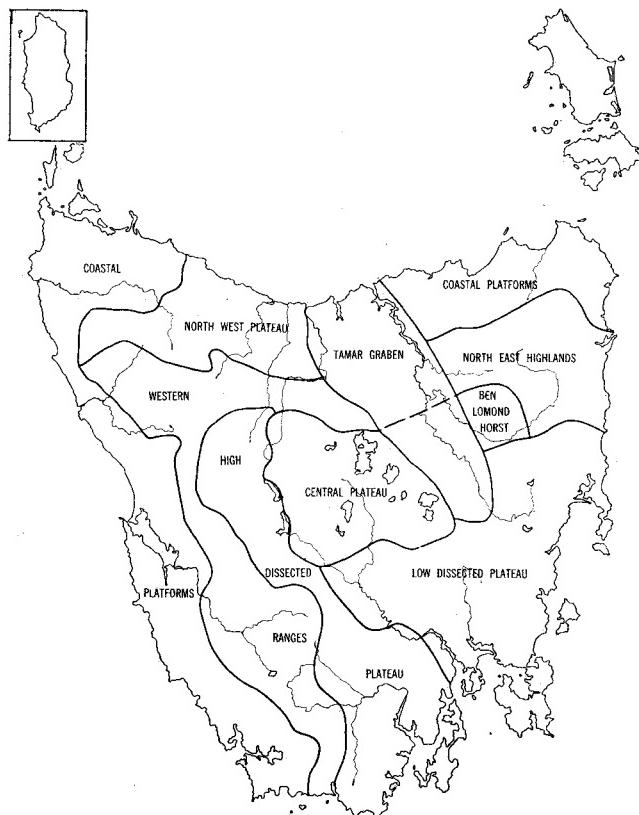
Tamar Graben: This graben (rift valley) is the largest plain and the leading agricultural and pastoral district in the State; it ends in the drowned inlets of the Tamar and Mersey estuaries and Port Sorell in the north.

North-East Coastal Platforms: This region consists of undulating lowland but the soils are acid and the land is used only for grazing.

North-East Highlands and Ben Lomond Horst: This region comprises mostly uplifted remnants of old fold mountains dominated by the 5,000 foot dolerite-capped plateau horst of Ben Lomond, an outlier of the Central Plateau. Here agriculture is largely confined to small basalt-derived basins, and some minerals are worked.

Low Dissected Plateau: In the south-east lies a low dissected dolerite plateau averaging perhaps 1,200 feet and used mainly for grazing. The northern coastlands of this region are narrow and also devoted to sheep but the southern coastline is important for its specialised agriculture. At the extreme south of the region is the drowned estuary of the Derwent, and the Tasman and Forestier Peninsulas.

(The above regions derive from a classification by J. L. Davies, M.A., Ph.D., University of Tasmania.)



Physiographic Regions (after J.L.Davies)

DESCRIPTION OF STATISTICAL DIVISIONS

Introduction

Earlier the State of Tasmania was briefly described by analysing its terrain into nine physiographic regions. For statistical purposes, the State is analysed in divisions but these do not necessarily coincide with physiographic regions and have been evolved empirically, mainly on the basis of affinity of type of rural production or identity of economic interest. For obvious reasons of convenience and simplicity, statistical divisions are built generally from *whole* municipalities and this fact alone will largely explain the divergence of the statistical divisions from the physiographic regions. Two examples will suffice: (i) Esperance Municipality is included in the Southern Division; only the eastern coastlands of the municipality are settled, the balance lying in the uninhabited south and southwest of the island; thus, due to the relatively large area of Esperance Municipality, the Southern Division not only includes the hop and fruit growing areas of the Derwent, Huon and Channel districts but also Port Davey and Lake Pedder in the remote west; (ii) Deloraine Municipality extends into at least three physiographic regions: the Tamar Graben, the Western Ranges and the Central Plateau. For statistical purposes, it is grouped with other municipalities in the North Western Division.

Statistical Divisions

In subsequent chapters, data for the State will be given in terms of statistical divisions and the following briefly describes each (with population estimated for 30 June 1967):

1. *Hobart Division*: On the Derwent Estuary, the cities of Hobart and Glenorchy, the Clarence Municipality and *portions* of the municipalities of Kingborough, New Norfolk, Brighton and Sorell form this aggregate. It is contained in the approximate quadrilateral New Norfolk—Pontville—Carlton River mouth—Snug, the boundaries having been drawn to encompass all future urban extensions of the main inner area over a period of 20 or 30 years. The division contains the State capital and a number of large industrial undertakings, with a major port located at Hobart. (Population, 143,279.)

'The Hobart Metropolitan Area' lies at the centre of the Hobart Division, of which it forms part; it comprises the *densely settled contiguous parts* of the cities of Hobart and Glenorchy, and of the municipalities of Clarence and Kingborough. (Population, 120,842.) The boundaries of the Metropolitan Area and the Hobart Division do not conform with borders defining local government areas. (The details of these boundaries are given in Chapter 5, 'Demography', under 'Population Centred on Hobart').

2. *North Central Division*: The City of Launceston on the Tamar Estuary is ringed by five municipalities, which, in addition to suburban elements, have large tracts of rural land; accordingly the City of Launceston is treated as a division in its own right. (Population, 37,078.)

'Urban Launceston' is an auxiliary statistical grouping and composed as follows: the North Central Division and the *suburban* portions of the bordering municipalities of Beaconsfield, St Leonards, Lilydale, Westbury and Evandale. (Population, 61,199.)

3. *North Western Division*: The constituent municipalities are King Island, Circular Head, Wynyard, Burnie, Penguin, Ulverstone, Kentish, Devonport, Latrobe and Deloraine. In general, the division extends north from the Pieman River mouth in the west, then along Bass Strait to the east of

Port Sorell. Rainfall in the division is generous—from forty to fifty inches near the shore-line to sixty or seventy inches on the higher country inland. The area is cut into sections by rivers discharging into Bass Strait, the chief being the Mersey, Forth, Leven, Blythe, Cam, Inglis, Black, Duck and Montagu.

It has large tracts of fertile soil which, together with good rainfall and a mild climate, account for relatively dense settlement and an ascendancy in dairying, beef-cattle farming, potato growing and production of crops for canning and quick-freezing (e.g. green peas and french beans). The division is making extensive use of its timber resources, not only for sawmilling but for large undertakings producing fine writing and printing paper, parchment and other special papers, and hardboard.

The two main ports of the division are Burnie and Devonport, the latter being the main terminal for a roll-on roll-off ferry service to Melbourne; urban development has not been confined to these two centres, however, and the coast road along Bass Strait runs through a number of townships serving the rural hinterland.

Until 1963, the north-west coast was isolated from the central west coast, the only direct link being the Emu Bay Railway; the Murchison Highway now connects the two areas and makes the coastal road along Bass Strait part of the 'round the State' route. (Population, 87,081.)

4. North Eastern Division: The constituent municipalities are Beaconsfield, George Town, Lilydale, Scottsdale, Ringarooma, Portland, Fingal and Flinders. In general, the division extends from east of Port Sorell along Bass Strait, then south along the Tasman Sea as far as the Denison River.

In terms of terrain, the division exhibits wide variety, including as it does the Tamar Estuary the north-east coastal plains and the north-east highlands. In the Tamar Valley from Trevallyn to the sea, the average rainfall is about 30 inches; elsewhere it varies from 30 inches on the coastal plains to 60 inches on some of the highlands. The rivers in the division, apart from the Tamar and South Esk, are mostly small; the Piper, Brid, Big Forester, Little Forester and Ringarooma flow into Bass Strait while the Mussel Roe, Anson, George and Scamander flow into the Tasman Sea.

Along the Tamar Estuary, the main rural activity is orcharding; elsewhere farming, dairying and grazing play an important role alongside tin and coal-mining, sawmilling, and metallurgical refining.

The main ports for the division are those on the Tamar Estuary, including Launceston, Beauty Point and Bell Bay, the last being the outlet for metallurgical refinery products, including aluminium, from plants at George Town. In considering the population of the division (36,523) it should be taken into account that approximately 28 per cent is located in suburban portions of Beaconsfield and Lilydale municipalities adjacent to Launceston.

5. North Midland Division: The constituent municipalities are St Leonards, Evandale, Longford and Westbury. Lying between the Western Tiers and Ben Lomond, the heart of the division contains the largest area of level land in the island and is thought to have its origin in two vast freshwater lakes of an earlier era. The ancient lake-bed soils were easily worked by the early settlers and the area became the island's main centre for cereal crops; cereal crop growing is still practised extensively but the rich grazing potential of the land is also being exploited. Rainfall varies from forty inches in the west to twenty five inches in the south; the chief rivers are the North and South Esk, the Meander and the Macquarie.

In considering the population of this division (25,969), it should be taken into account that nearly 54 per cent is located in *suburban* portions of St Leonards, Westbury and Evandale municipalities adjacent to Launceston.

6. *Midland Division*: The constituent municipalities are Bothwell, Hamilton, Campbell Town, Ross and Oatlands. In the west are the Central Plateau and Lake Country, generally at an elevation that allows only limited summer grazing. To the east is a lower dissected plateau where graze more sheep than in any other division. Rainfall varies from 80 inches in the extreme west to almost as low as 20 inches in the east and south. The principal rivers in the sheep belt are the Macquarie, Elizabeth and Clyde; the division also contains the western source and upper waters of the Derwent. (Population, 10,145.)

7. *South Eastern Division*: The constituent municipalities are Glamorgan, Spring Bay, Sorell (*part*), Richmond, Brighton (*part*) and Green Ponds. The division includes the east coast from the Denison River south to Forestier Peninsula and extends inland north of the Derwent opposite New Norfolk (but totally excludes Clarence Municipality). Its partitioned municipalities—Sorell and Brighton—have small areas included in the Hobart Division. In the west of the division, rainfall is as light as twenty inches with slightly more in the east. There is good farmland in the area north of the Derwent but, taken as a whole, the division is mainly devoted to grazing. (Population, 7,132.)

8. *Southern Division*: The constituent municipalities are Esperance, Port Cygnet, Huon, Kingborough (*part*), New Norfolk (*part*), Bruny and Tasman. Its partitioned municipalities—Kingborough and New Norfolk—have areas included in the Hobart Division. The division includes the Derwent Valley, the Huon Valley and the D'Entrecasteaux Channel district as well as Bruny Island and Tasman Peninsula; the western half is uninhabited. Rainfall in the west approaches 60 inches or more, in the Huon and Channel districts 35 inches and in the lower Derwent Valley 25 inches or less. The main rural industries are concentrated on hops, orchards and small-fruit while exploitation of timber is important, not only for sawmilling, but also for the mills at Boyer and Geeveston where native hardwoods are converted to paper pulp. The main port used by the division is located at Hobart with Port Huon used seasonally in the export of fruit. (Population, 18,181.)

9. *Western Division*: The constituent municipalities are Waratah, Zeehan, Gormanston, Queenstown and Strahan. The division reaches south from the mouth of the Pieman River to Port Davey and extends east almost to Lake St Clair. Agriculture plays virtually no part in this area of heavy rainfall and rugged mountains. In a division where rain is measured in feet rather than inches, it is difficult to generalise but 30-year averages for individual stations are as follows: Gormanston, 120 inches; Lake Margaret, 143 inches; Queenstown, 99 inches; Waratah, 89 inches; Zeehan, 97 inches. Considering the mountainous terrain and abundant rainfall, it is not surprising that the island's largest river, the Gordon, should flow in this division, discharging into Macquarie Harbour; the Pieman River to the north is almost as big. The only port—Strahan on Macquarie Harbour—is approached through a narrow rocky entrance called Hells Gates; strong currents and a sand bar are additional navigational hazards.

Settlement in the division is mainly related to mining since this is the island's richest mineral-bearing tract, the chief minerals being copper, zinc, silver-lead and tin. A pipeline from the Savage River to Port Latta near Stanley was finished in 1967; iron ore is being pumped through it for pellet-making and shipment to Japan began in April 1968.

Until 1963, the west coast was isolated from the north-west coast, the only link being the Emu Bay Railway. The completion of the Murchison Highway has put the main western towns on a 'round the State' route.

The population (10,387) is mainly concentrated in and around Queenstown, Rosebery, Zeehan and Savage River.

Former Statistical Divisions

The Statistical Divisions just described are those employed to classify data from the 1966 Census of population. Prior to the Census the cities of Hobart and Glenorchy were combined and called the South Central Division. The revised classification does away with this grouping and substitutes the Hobart Statistical Division, an area much larger than the South Central Division.

AREA OF STATE

Major and Minor Islands

Until recently, the official area of the State of Tasmania was stated to be 26,215 sq. miles (16,778,000 acres), this measurement dating from the previous century; a re-calculation from existing maps in 1907 confirmed that figure. In 1963, a further calculation was carried out using a new series of maps which incorporated fresh survey data and the new official area was announced as 26,383 sq. miles (16,885,000 acres).

The State is composed of 49 local government areas (cities and municipalities) and three of these are either islands or groups of islands.

Details of the 'island municipalities' are as follows:

| Island Municipalities— | | | | | | Area (Sq. Miles) |
|-------------------------------------|----|----|----|----|----|------------------|
| Bruny | .. | .. | .. | .. | .. | 139.80 |
| King Island | .. | .. | .. | .. | .. | 424.40 |
| Flinders | .. | .. | .. | .. | .. | 768.93 |
| <hr/> | | | | | | |
| Total | .. | .. | .. | .. | .. | 1,333.13 |
| <hr/> | | | | | | |
| Remaining Municipalities and Cities | .. | .. | .. | .. | .. | 25,049.87 |
| <hr/> | | | | | | |
| Grand Total | .. | .. | .. | .. | .. | 26,383.00 |
| <hr/> | | | | | | |

While the 'island municipalities' include the bulk of the lesser islands forming part of the State, some islands are still included in the area of coastal municipalities, e.g. Maria Island in Spring Bay Municipality. Macquarie Island, site of an Antarctic Research Station and situated in 54° South latitude, is a Tasmanian dependency and included in the Esperance Municipality; the island is 21 miles long with an average width of two miles.

Area of Municipalities and Cities

In the table that follows, the measured area of the State (16,884.971 acres or 26,382.76 sq. miles) has been rounded, in total, to the nearest 1,000 acres and to the nearest sq. mile. The corrections necessary to reconcile to the rounded totals have been made by adjusting the area of Esperance, the largest municipality. Where municipal boundaries lie in the sea, these have been disregarded

so that the stated area relates to a physical boundary (i.e. the coastline) and not to a legal boundary (which may lie in a seaway or estuary). Figures for the Hobart, Southern and South Eastern Divisions have been revised.

Area of Statistical Divisions and Local Government Areas

| Local Govt Area and Statistical Division | Area | | Local Govt Area and Statistical Division | Area | |
|---|-----------|-----------|---|------------|-----------|
| | Acres | Sq. Miles | | Acres | Sq. Miles |
| Hobart (H) (a) .. | 19,728 | 30.82 | Beaconsfield .. | 157,628 | 246.29 |
| Glenorchy (H) (a) .. | 29,593 | 46.24 | Fingal .. | 674,953 | 1,054.61 |
| Clarence (H) .. | 62,075 | 96.99 | Flinders .. | 492,115 | 768.93 |
| Brighton (SE) (H) .. | 108,905 | 170.16 | George Town .. | 161,614 | 252.52 |
| Glamorgan (SE) .. | 379,325 | 592.70 | Lilydale .. | 168,987 | 264.04 |
| Green Ponds (SE) .. | 102,827 | 160.67 | Portland .. | 390,783 | 610.60 |
| Richmond (SE) .. | 140,391 | 219.36 | Ringarooma .. | 403,238 | 630.06 |
| Sorell (SE) (H) .. | 193,199 | 301.87 | Scottsdale .. | 319,143 | 498.66 |
| Spring Bay (SE) .. | 277,195 | 433.12 | | | |
| Bruny (S) .. | 89,476 | 139.80 | Total NE. Div. .. | 2,768,461 | 4,325.71 |
| Esperance (S) (b) .. | 1,528,586 | 2,388.61 | | | |
| Huon (S) .. | 191,306 | 298.92 | Evandale .. | 244,513 | 382.05 |
| Kingborough (S) (H) | 87,682 | 137.00 | Longford .. | 246,506 | 385.17 |
| New Norfolk (S) (H) | 325,121 | 508.00 | St Leonards .. | 220,202 | 344.06 |
| Port Cygnet (S) .. | 59,385 | 92.79 | Westbury .. | 223,390 | 349.05 |
| Tasman (S) .. | 118,570 | 185.27 | | | |
| Total—Hobart Div. .. | 238,067 | 371.98 | Total N. Midland Div. .. | 934,611 | 1,460.33 |
| SE. Div. .. | 1,156,655 | 1,807.27 | | | |
| S. Div. (c) .. | 2,318,642 | 3,623.07 | Bothwell .. | 644,463 | 1,006.97 |
| Launceston (a) .. | 6,974 | 10.90 | Campbell Town .. | 354,714 | 554.24 |
| Total N. Central.. Division .. | 6,974 | 10.90 | Hamilton .. | 1,445,459 | 2,258.53 |
| Burnie .. | 152,647 | 238.51 | Oatlands .. | 380,520 | 594.56 |
| Circular Head .. | 1,215,094 | 1,898.58 | Ross .. | 306,488 | 478.89 |
| Deloraine .. | 720,687 | 1,126.07 | | | |
| Devonport .. | 28,696 | 44.84 | Total Midland Div. .. | 3,131,644 | 4,893.19 |
| Kentish .. | 293,436 | 458.49 | | | |
| King Island .. | 271,615 | 424.40 | Gormanston .. | 709,627 | 1,108.79 |
| Latrobe .. | 135,608 | 211.89 | Queenstown .. | 34,973 | 54.65 |
| Penguin .. | 106,712 | 166.74 | Strahan .. | 922,355 | 1,441.18 |
| Ulverstone .. | 126,342 | 197.41 | Waratah .. | 669,373 | 1,045.90 |
| Wynyard .. | 200,772 | 313.71 | Zeehan .. | 742,009 | 1,159.39 |
| Total NW. Div. .. | 3,251,609 | 5,080.64 | | | |
| | | | Total W. Div. .. | 3,078,337 | 4,809.91 |
| | | | | | |
| | | | Total Tasmania (d) | 16,885,000 | 26,383.00 |

(a) Cities.

(b) Measured area is 2,388.37 sq. miles (1,528,557 acres).

(c) Measured area is 3,622.83 sq. miles (2,318,613 acres).

(d) Measured area is 26,382.76 sq. miles (16,884,971 acres).

Area of Tasmania and Other Australian States

The following table compares the area and length of coastline of Tasmania with those of other Australian States and Territories:

Australia: Areas and Coastline of States and Territories

| State or Territory | Area | Proportion of Total Area | Coastline | Area per Mile of Coastline |
|-----------------------|---------------------|--------------------------------|------------------|----------------------------------|
| Tasmania | sq. miles 26,383 | per cent 0.89 | miles (a) 900 | sq. miles 29 |
| New South Wales .. | 309,433 | 10.43 | (b) 700 | 443 |
| Victoria | 87,884 | 2.96 | 680 | 129 |
| Queensland | 667,000 | 22.47 | 3,000 | 222 |
| South Australia .. | 380,070 | 12.81 | 1,540 | 247 |
| Western Australia .. | 975,920 | 32.88 | 4,350 | 224 |
| Northern Territory .. | 520,280 | 17.53 | 1,040 | 500 |
| A.C.T. | 939 | 0.03 | .. | .. |
| Mainland | 2,941,526 | 99.11 | 11,310 | 260 |
| Australia | 2,967,909 | 100.00 | 12,210 | 243 |

(a) Excludes coastline of islands totalling at least a further 500 miles.

(b) Includes coastline of Jervis Bay which is part of Australian Capital Territory.

Jurisdiction in Bass Strait

There are in Bass Strait numerous islands, the chief being the Furneaux group (Flinders, Cape Barren and Clarke), King Island and the Hogan, Curtis and Kent groups. These all form part of the State since the boundary line between Tasmanian and Victorian sovereignty is defined as $39^{\circ} 12'$ South latitude; this parallel lies 5 miles south of Wilsons Promontory, so some Tasmanian territory is located only 8 to 10 miles from the Victorian coast (Rodondo and West Moncoeur islands).

The proclamation of $39^{\circ} 12'$ South latitude as the northern boundary of Tasmanian sovereignty dates from 1825 when Van Diemen's Land became a colony distinct from New South Wales. Subsequent State mining legislation has followed the limits of the 1825 proclamation and Tasmania claims mining jurisdiction over Bass Strait as far north as $39^{\circ} 12'$ South latitude. Australia is a signatory to the Convention on the Continental Shelf signed at Geneva on 29 April 1958; in 1967, the Commonwealth and all the States passed legislation affecting oil exploration on the continental shelf. Tasmania remains the authority to issue permits and licences for the area south of $39^{\circ} 12'$ South latitude. To date, three drill holes have been bored in Tasmanian waters without success, and a fourth hole is currently being bored in the portion of the Otway Basin which extends into Tasmanian waters. Victoria is constructing pipelines to convey natural gas and oil found in its territorial waters.

CLIMATE OF TASMANIA**Introduction**

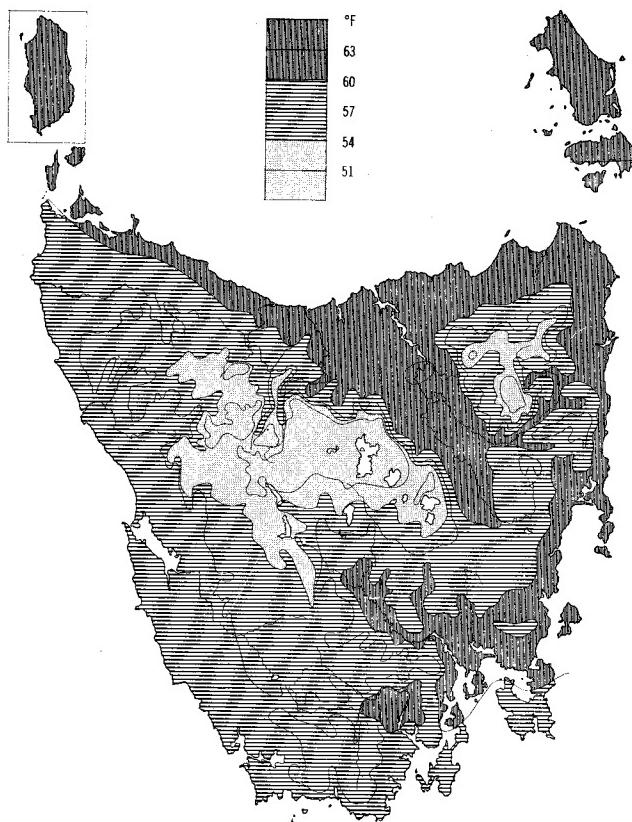
Since the island lies between 40° and $43\frac{1}{2}^{\circ}$ south of the Equator, and no point is more than 70 miles from the sea, the climate is classified as temperate maritime. There is a small daily temperature range approximating 10°F at the coast and double this inland, thus indicating a slight 'continental' effect.

The mountainous topography, especially in the western half, causes an east-west variation which, with the general westerly wind system common to these latitudes, is the predominant feature influencing the climate of the island.

The maximum elevation of the sun is 70° - 73° in midsummer and 23° - 26° in midwinter. The difference between the longest and shortest days is $5\frac{3}{4}$ hours at the northern and $6\frac{1}{2}$ hours at the southern end of the island, while the period of daylight is never less than nine hours. Heat absorption and storage by the sea produce remarkably mild winters and cool summers in coastal areas. (See Appendix C for daylight saving legislation.)

Temperature

Temperatures at sea level are reduced by 5.4°F for each 1,000 feet of altitude, which partly explains the lower temperatures in the west of the State. Increased cloud cover leads to decreased insolation which further decreases temperatures. Thus, above 2,000 feet, temperatures are everywhere too cold to permit growth of agricultural crops in Tasmania.



Mean Temperature - January

Frosts are affected to a marked degree by topography. Valleys act as natural channels for the drainage of cold, dense air at night, and frost pockets occur on valley floors. Inland centres are only frost-free in summer while the north coast, east and southeast are free after early October. Above 1,000 feet there is no frost-free month.

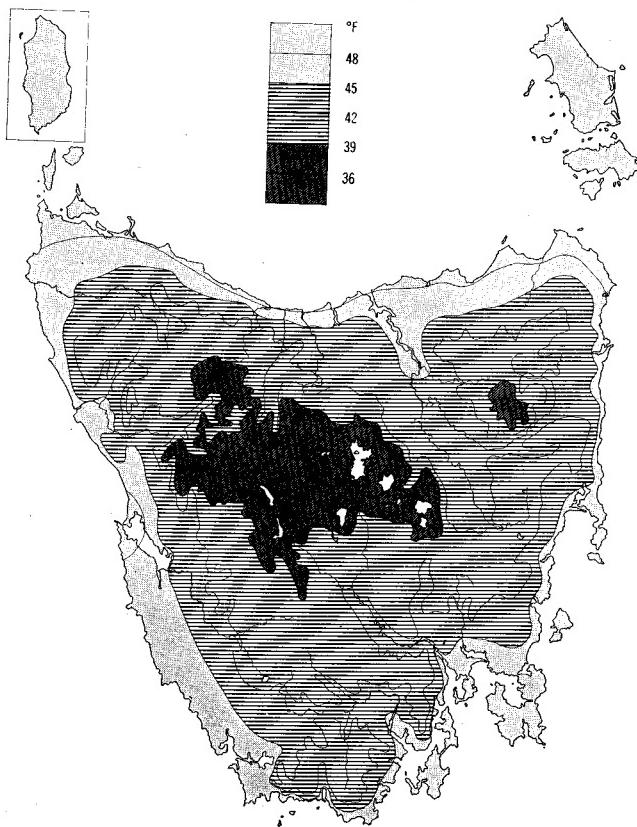
A further cause of higher mean temperatures in the east is the föhn effect. Moist air from the west is cooled as it is forced to ascend over the western

and central highlands; moisture is precipitated ('orographic' rain), and the descending air mass is drier and therefore more susceptible to warming. The result is a net warming of the airstream in the eastern lowlands.

In the descriptions of temperature that follow, three averages are used, the basis of all being continuous observation over a 24-hour period yielding two extreme readings; namely a maximum and a minimum. In summarising temperature recordings for a longer period (e.g. a week, a month, etc.), it is usual to employ these averages:

- (i) Mean maxima: the average of the daily maxima for the period;
- (ii) Mean minima: the average of the daily minima for the period;
- (iii) Mean: from formula $\frac{1}{2}$ (maxima + minima) for the period.

To avoid any possible confusion, the following terms have been used, corresponding to the above averages, namely (i) mean maximum temperature, (ii) mean minimum temperature, (iii) mean temperature.



Mean Temperature - July

The recorded extremes of temperature for Hobart are 105°F (on three occasions), and 27.7°F in July 1895. Such readings are extremely rare, the mean maximum temperature being 70°F in summer and 54°F in winter, and the matching minimum 52°F in summer and 41°F in winter. Thus Hobart can be said to have a cool to mild, even climate, with uncomfortable extremes being the rare exception.

Rainfall

The overall pattern for Tasmania is one of precipitation from a general westerly circulation modified by topography. As the island is located on the northern boundary of the westerly rainfall regime, much of the rain falls in winter, but nevertheless the balance falling outside this period is substantial.

In the dominant west coast mountains, average annual rainfall ranges from 50 to 60 inches on the coast to 142 inches at Lake Margaret; in the north-east, from 22 inches on the coast to 50 inches on the highlands; and the north-west's rainfall ranges from 35 inches near the coast to 70 inches in the higher inland areas.

Extreme three to five-day rainfalls occur in late June on the west coast brought by strong westerlies, but the north coast and the country extending inland to the Western Tiers receive extreme rainfall in mid to late-autumn, when the wind flow is sustained (up to two days) from the north-east.

There is a distinct rainshadow area on the eastern side of the Central Plateau and parts of the Midlands receive 20 inches, and even less in some years. Totals in the east and south-east, and on the Tasman Peninsula, are higher (to 40 inches on the slopes, or even more on rain-attracting peaks), while 70 inches is probable in the uninhabited south. The shadowing effect of mountains reduces amounts in the D'Entrecasteaux area to 30 to 40 inches.

Of note is the sharp gradient in isohyets along the northern and western boundaries of the Central Plateau. This is closely linked with topography.

Rainfall is least reliable in the east, south-east, Midlands and Derwent Valley during late summer and late winter. It is wettest in late autumn and spring. In general, rainfall is least in these parts when the westerlies are strongest (late winter) or relatively absent (summer). The autumn and spring maxima are due to small cyclonic centres of pressure affecting the eastern half of the State.

Effective rainfall, which takes evaporation into account, is that amount required to start germination and maintain plant growth above the wilting point. This obtains from May to October everywhere, but in midsummer there is only one chance in two of effective rainfall being received in the coastal north and lowland areas, and one in three for the drier part of the Derwent Valley and the Midlands.

Floods

The basin of the South Esk is most likely to be flooded as the catchment area includes most of the north-east highlands, where rainfall exceeds 50 inches. As most of the river flows through flat country, flooding can be widespread.

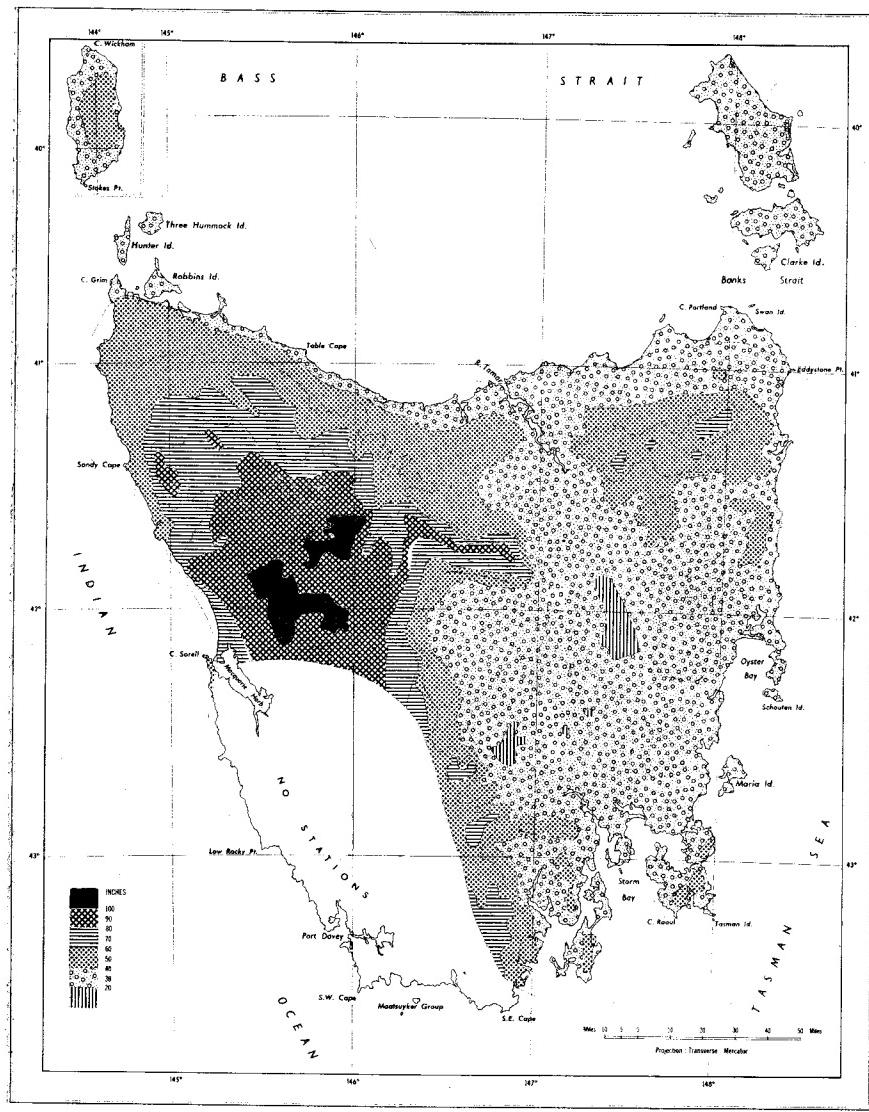
Flooding of the Derwent can be extensive but is less frequent, while streams in the north-west, because of their smaller catchments, have localised flooding. This also applies to most southern streams, but little is known about flooding in the sparsely populated western mountains.

The most severe floods in the South Esk Basin occurred in April 1929 and May 1956, and in the Derwent Valley in April 1960.

Droughts

These are not so pronounced as in the continental States and are usually confined to a particular region. 1908-1910 was a time of record drought in almost all agricultural areas, resulting in severe crop and stock losses in the

east and south-east, and 1914 was even drier. Rationing of hydro-electric power operated in 1951-1954 and in 1963-64. The first half of 1967 was associated with drought conditions in the southern half of the State, and with disastrous bush fires on 7 February. Industrial electricity supplies again had to be restricted from October 1967, when daylight saving was introduced, and in November supplies were further reduced. The drought continued in early 1968 but it was possible to end all restrictions from 1 October due to later good rains.



Mean Annual Rainfall

Winds

Tasmania is influenced by windflow backing from north-west to south-west in all seasons of the year, with greatest strength during late winter. The wind circulation in the westerly belt is not regular, and marked variations are imposed on the average seasonal changes.

The first variation in speed is approximately weekly and is connected with the eastward passage of cells of high and low pressure. This cycle disappears when the mean speed of the westerlies decreases, a phenomenon following a broader cycle of several weeks. When the westerlies are weakest, prevailing winds are from the north-east to south-east.

Windspeeds do not become as high as in tropical storms, but gusts to 90 mph occur with the passage of cold fronts or with the formation of small, intense storms. The highest average windspeeds are associated with extensive deep depressions over ocean areas south of Tasmania.

Snow and Hail

(a) *Snow*: Extensive snow to low levels (below 500 feet) occurs with outbreaks of air from Antarctica less than once every two years. It is common on all highlands during July and August. There is no permanent snowline, although patches of snow can remain on the highest peaks of the Central Plateau until December.

(b) *Hail*: This is possible in any month, but is most likely in spring, causing damage to fruit crops, especially in the Huon Valley and Tasman Peninsula. Hail storms occur about four times per year in Hobart, and occasionally in the north and north-west. Orchardists insure against possible losses under a hail insurance scheme.

Thunderstorms

These are most common in the north and north-west, and are associated with the lifting of warm, moist air by a cold front. Under conditions of sufficient instability, heating of low level air in summer also produces storms. They are rare in winter and occur mainly between December and February.

Humidity

Due to its maritime location, the average 9 am relative humidity at all stations is greater than 50 per cent for all months of the year. In fog, the relative humidity is close to 100 per cent. This condition occurs mainly during winter. In summer, periods of high humidity in combination with high temperatures are rare.

Evaporation

Tasmania's climate precludes extremes of evaporation, and no station exceeds six inches as its highest monthly average (this obtains in the lowlands in January, when the highlands have less than four inches). In July, only a small section of the east coast has evaporation of over one inch.

Over the whole year, most agricultural areas have an average evaporation between 25 inches and 30 inches, which is in many places less than the average rainfall. This has had a podsolization effect on many soils, with consequent reduction of fertility in some areas.

The Climate of Hobart

Since 1882, the Weather Bureau has been situated near Anglesea Barracks. (New premises at an adjacent site in Ellerslie Road were occupied in 1966.)

Temperature: Mean maximum temperature exceeds 70°F in January and February, and is lower than 60°F from May to September. There are only

two or three days per year with maxima greater than 90°F, and no two successive days have exceeded 100°F. The maximum reading in 1967 was 103°F on 7 February.

Mean minimum temperatures exceed 40°F in all months and readings lower than 30°F are rare on any day. The minimum reading in 1967 was 32°F on 5 July.

Frost: The average annual frequency of days of frost is 31, mostly between June and August. None has been recorded in January. Cold air drainage is found in the hilly suburbs, and frosts are common on the valley floors.

Rainfall: Mount Wellington induces a strong relief variation in rainfall. At the pinnacle, annual rainfall is 65 inches, and the Springs and Ferntree have 56 inches and 55 inches respectively. The Hobart Weather Bureau receives 25 inches, but some eastern shore suburbs have only 23 inches.

Monthly totals are fairly evenly distributed but with small peaks in April, October and December. The probability of rain on any day is highest during the afternoon in the spring months.

The wettest 12 months on record yielded 43.4 inches to December 1916, and the driest, 13.0 inches to November 1943.

Relative Humidity: Highest humidity is at the time of lowest temperature, in the early mornings during winter. As temperatures rise to 3 pm, humidity decreases by 15-20 per cent. The seasonal variation is not great, although the average humidity during the winter months is 70 to 75 per cent and during the summer months 58 per cent. Periods of high humidity combined with high temperatures are rare.

Fogs occur about four times per year, but are usually confined to low areas flanking the Derwent during the cooler months. In fact, Hobart experiences more hours of sunshine than Melbourne due to its relative freedom from fog.

Sunshine and Cloud: No marked seasonal variation of cloud amount occurs, but a strong dependence on time of day is evident. The average coverage is five-eighths to six-eighths. During April to September, cloud cover is greater in the afternoon, and from October to March in the morning.

A clear-cut seasonal variation in monthly average hours of sunshine also occurs, with amounts varying from 231 hours in January to 111 hours in June.

Wind: The main wind direction is west to north-west, induced by the shape of the Derwent Valley; the other is the south-east sea breeze experienced during the summer months.

Strong winds are comparatively frequent from passing storms, especially during winter and spring. The strongest gust recorded was 93 mph, in September 1965. Strong winds from the south-east may also occur during storms.

Thunderstorms: These occur less than five times per year mainly between December and February.

Snow and Hail: Snow below 1,000 feet occurs less than once per year, but falls lying at sea level have been recorded, the latest being August 1951. Snow is likely on Mt Wellington during any winter month, but rarely between October and March. The two television transmitters located on the pinnacle (4,166 feet) are equipped to withstand breaks in road communication caused by snow.

Hailstorms occur four times per year, on average, mainly between September and November.

The Climate of Launceston

Launceston is located on the Tamar Estuary at the confluence of the North Esk and South Esk Rivers. Being 40 miles from the coast, Launceston exhibits a continental effect in its climate, i.e. more extreme seasonal and daily variations in temperature, and lower total rainfall than at the coast. Weather observations have been taken from the pumping station in Forster Street since 1889; and from Watchorn Street (radio station 7EX) since December 1965.

Temperature: The average maximum temperature exceeds 70°F from December to March, and only during June and July does it fall below 55°F. In January and February the average maximum exceeds 75°F.

The average minimum temperature is 50°-52°F during the summer months, below 45°F from May to October, and below 40°F during the winter months. Temperatures lower than 32°F are common during winter, the lowest recorded being 21°F.

Frost: Up to 50 days of frost can be expected in any year and these are most likely from May to August. Ten consecutive days of frost have been recorded and there have been light frosts during summer.

Rainfall: Monthly totals show a strong seasonal variation with July (3.4 inches) having double that of January, the annual total being 29 inches.

Rainfall is least reliable during summer, and is most likely to be less than one inch in February. Heavy rain is mainly confined to the colder half of the year, the wettest recorded month being August 1936, with 10.01 inches.

In 1916 and 1946, annual falls of over 40 inches were recorded, and in 1908, 1914 and 1919 less than 20 inches. Highest intensity of rainfall occurs during thunderstorms.

Relative Humidity: Seasonal and daily variations are similar to those for Hobart, but the daily readings are five per cent to 10 per cent higher.

Occasions of high humidity, associated with moist north-easterly air-streams, are frequent at Launceston, and fogs may occur 30 or more times annually, mostly between May and August, and in association with cold air drainage down the Tamar Valley.

Sunshine and Cloud: Only a small seasonal variation in cloud amount occurs, and average coverage varies from six-eighths to seven-eighths in winter to five-eighths to six-eighths in summer. There is a tendency for slightly reduced cloud cover during the afternoons, especially in winter.

The monthly average number of hours of sunshine varies from 300 in January to 120 in June, and there is no interruption to the strong seasonal variation.

Wind: A marked effect on Launceston's wind regime is induced by the Tamar Valley. It is orientated northwest-southeast, and most winds conform to these directions. Speeds are roughly similar to those at Hobart, but an increase of 10 to 15 mph in the north-westerly wind occurs on summer afternoons, due to the sea breeze effect.

Strong winds are most common during the colder half of the year, but can occur at any time in association with thunderstorms.

Snow: Settling of snow does not occur in the city area, but falls on the foothills are not uncommon.

Physical Environment

Rainfall at Selected Stations

The table that follows gives rainfall data on an annual basis for 22 selected stations and also shows the Statistical Divisions in which they are located:

**Annual Rainfall at Representative Stations
(Inches)**

| Station | Statistical Division | 1964 | 1965 | 1966 | 1967 | Long-term Average (a) |
|------------------------------|----------------------|--------|-------|-------|-------|-----------------------|
| Avoca .. . | NE. | 25.83 | 17.02 | 20.80 | n.r. | 21.43 |
| Beaconsfield .. . | NE. | 47.09 | 34.86 | 30.12 | 25.29 | 36.91 |
| Burnie (Holymans) .. . | NW. | 50.77 | 31.34 | 34.64 | 28.46 | 38.85 |
| Campbell Town .. . | Midland | 28.06 | 16.97 | 20.42 | 12.96 | 21.93 |
| Deloraine (Ashley) .. . | NW. | 48.80 | 31.03 | 36.05 | 26.88 | 37.64 |
| Franklin .. . | Southern | 38.64 | 33.03 | 30.79 | 27.74 | 35.28 |
| Hobart (Weather Bureau) .. . | Hobart | 28.06 | 20.98 | 27.52 | 19.23 | 24.86 |
| Hobart (Airport) .. . | Hobart | 26.26 | 17.34 | 23.43 | 18.31 | 22.61 |
| Launceston (Airport) .. . | N. Midland | 36.69 | 23.98 | 26.63 | 19.40 | 28.05 |
| Lilydale .. . | NE. | 47.80 | 33.69 | 31.70 | 27.13 | 38.21 |
| Longford .. . | N. Midland | 31.73 | 21.76 | 24.26 | 18.58 | 24.72 |
| Lymington South .. . | Southern | 33.65 | 25.01 | 27.21 | n.r. | 31.24 |
| New Norfolk .. . | Southern | 20.83 | 15.43 | 22.26 | 15.17 | 21.88 |
| Oatlands .. . | Midland | 23.55 | 19.86 | 22.83 | 14.80 | 22.35 |
| Ringarooma .. . | NE. | 60.65 | 41.85 | 39.37 | 29.53 | 48.49 |
| Scottsdale .. . | NE. | 47.85 | 32.11 | 32.95 | n.r. | 41.99 |
| Smithton .. . | NW. | 53.89 | 31.42 | 37.24 | 32.40 | 43.08 |
| Swansea .. . | SE. | 25.95 | 16.39 | 24.74 | 17.84 | 24.07 |
| Triabunna .. . | SE. | 29.65 | 22.98 | 26.06 | 22.02 | 25.90 |
| Ulverstone .. . | NW. | 52.20 | 33.45 | 34.09 | 28.09 | 38.11 |
| Woodbridge .. . | Southern | 41.61 | 30.57 | 33.24 | 29.90 | 35.96 |
| Zeehan .. . | Western | 120.60 | 97.92 | 81.87 | 72.11 | 96.71 |

(a) Number of years of record ranges from 84 at Hobart Weather Bureau down to 22 years at Hobart Airport.

Temperature and Rainfall, Hobart

The next table gives the main measures for Hobart during the year 1967 on a monthly basis:

Hobart Weather in 1967

| Month | Shade Temperature | | | | Mean Daily Hours of Sunshine | Rainfall | | |
|---------------------|-------------------|-------------|-------------|-------------|------------------------------|---------------|-----------------------|--|
| | Mean Maxima | Mean Minima | Extremes | | | Total in 1967 | Long-term Average (b) | |
| | | | Maximum (a) | Minimum (a) | | | | |
| January .. . | °F 70.0 | °F 52.6 | °F 89.0 | °F 44.9 | hours 8.9 | inches 0.59 | inches 1.94 | |
| February .. . | 73.2 | 54.2 | 102.8 | 43.9 | 10.6 | 0.37 | 1.60 | |
| March .. . | 68.8 | 52.3 | 89.2 | 43.0 | 7.7 | 0.62 | 1.87 | |
| April .. . | 65.3 | 48.1 | 81.6 | 37.7 | 6.2 | 0.82 | 2.19 | |
| May .. . | 59.9 | 46.3 | 73.7 | 36.8 | 4.8 | 0.46 | 1.92 | |
| June .. . | 56.1 | 40.8 | 62.9 | 32.5 | 4.6 | 0.27 | 2.39 | |
| July .. . | 53.1 | 39.4 | 61.6 | 32.0 | 4.8 | 6.08 | 2.07 | |
| August .. . | 55.2 | 41.0 | 63.8 | 36.0 | 4.9 | 2.17 | 1.89 | |
| September .. . | 57.1 | 44.0 | 69.9 | 39.0 | 5.1 | 2.06 | 2.10 | |
| October .. . | 64.0 | 46.3 | 80.2 | 38.2 | 8.1 | 1.70 | 2.53 | |
| November .. . | 62.8 | 47.8 | 77.6 | 42.0 | 7.6 | 2.62 | 2.14 | |
| December .. . | 65.8 | 50.4 | 83.7 | 42.2 | 7.2 | 1.47 | 2.22 | |
| Total for Year .. . | .. . | .. . | .. . | .. . | 6.7 | 19.23 | 24.86 | |

(a) Maximum for year: 102.8°F on 7 Feb., minimum for year: 32.0°F on 5 July.

(b) Number of years of record: 84.

Seasonal Temperatures

The mean temperature for any locality can give quite a false impression, e.g. a mean temperature of 60°F based on a maximum of 120°F and a minimum of 0°F, all in the one day. A better way of examining a locality's climate is to take the maximum temperature each day and average these readings for each month; similarly to take the minimum temperature each day and average these readings for each month. These mean maxima and minima then give an indication of the daily variation that may be expected. The following table shows the mean maximum and mean minimum temperatures for six selected stations, the months representing summer, autumn, winter and spring; Hobart, Devonport and St Helens are on the coast; Launceston is about 30 miles from the sea but at a low altitude; Oatlands is also about 30 miles from the sea at 1,400 feet; Zeehan is 12 miles from the sea at 580 feet.

Temperatures at Selected Stations, 1967
(°F)

| Station | Maximum Temperatures | | Minimum Temperatures | | Mean Temperatures | |
|------------------|----------------------|-----------------------|----------------------|-----------------------|-------------------|-----------------------|
| | Mean for Month (a) | Departure from Normal | Mean for Month (b) | Departure from Normal | Mean for Month | Departure from Normal |
| JANUARY | | | | | | |
| Hobart | 70.0 | -0.9 | 52.6 | 0.0 | 61.3 | -0.4 |
| Launceston | 71.4 | -4.4 | 51.0 | -1.2 | 61.2 | -2.8 |
| Zeehan | 67.1 | 0.0 | 43.2 | -4.8 | 55.1 | -2.4 |
| Devonport | 68.5 | -2.0 | 51.6 | -0.6 | 60.1 | -1.2 |
| Oatlands | 70.1 | -0.5 | 42.5 | -4.1 | 56.3 | -2.3 |
| St Helens | 71.4 | -0.7 | 51.8 | +0.2 | 61.6 | -0.3 |
| APRIL | | | | | | |
| Hobart | 65.3 | +2.8 | 48.1 | +0.7 | 56.7 | +1.8 |
| Launceston | 65.8 | +0.4 | 46.0 | +0.9 | 55.9 | +0.6 |
| Zeehan | 62.8 | +3.0 | 44.5 | -0.2 | 53.7 | +1.4 |
| Devonport | 63.9 | +0.4 | 48.6 | +1.8 | 56.3 | +1.2 |
| Oatlands | 62.4 | +2.4 | 41.3 | +0.5 | 51.9 | +1.5 |
| St Helens | 68.5 | +3.8 | 42.8 | -2.5 | 55.7 | +0.7 |
| JULY | | | | | | |
| Hobart | 53.1 | +0.9 | 39.4 | -0.2 | 46.3 | +0.4 |
| Launceston | 52.7 | -1.0 | 38.0 | +1.1 | 45.3 | 0.0 |
| Zeehan | 53.6 | +2.3 | 35.8 | -2.4 | 44.7 | 0.0 |
| Devonport | 54.8 | +0.7 | 41.6 | +2.8 | 48.2 | +1.7 |
| Oatlands | 50.1 | +1.1 | 34.7 | +0.5 | 42.4 | +0.8 |
| St Helens | 56.4 | +0.8 | 38.9 | +1.7 | 47.7 | +1.3 |
| OCTOBER | | | | | | |
| Hobart | 64.0 | +1.7 | 46.3 | +0.9 | 55.1 | +1.2 |
| Launceston | 61.8 | -2.3 | 43.5 | -0.6 | 52.7 | -1.4 |
| Zeehan | 60.0 | +1.2 | 40.8 | -1.9 | 50.4 | -0.3 |
| Devonport | 60.3 | -0.1 | 46.4 | +1.7 | 53.3 | +0.8 |
| Oatlands | n.r. | n.r. | n.r. | n.r. | n.r. | n.r. |
| St Helens | 66.6 | +3.2 | 44.6 | +0.7 | 55.6 | +1.9 |

(a) Average of maximum daily temperatures for month.

(b) Average of minimum daily temperatures for month.

Rainfall in Districts

Meteorologically, Tasmania is divided into nine districts (not to be confused with statistical divisions) with fairly well defined land use patterns appropriate to each. The following table shows rainfall totals for the past 10 years:

**Rainfall of Tasmania in Districts
(inches)**

| Period | Agriculture, Dairying and Mixed Farming | | Grazing (Mainly Sheep) | | Fruit Growing, Grazing, Forestry | | Dairy Farming | Mining | Grazing |
|-------------------------|---|----------------|------------------------------|----------|--|---------------|------------------|---------------|--------------------|
| | Northern | King Island | Central Plateau | Midlands | Derwent Valley | South East | East Coast | West Coast | Flinders Island |
| 1958 .. | 43.28 | 40.55 | 55.66 | 27.32 | 41.18 | 42.30 | 37.88 | 108.31 | 33.97 |
| 1959 .. | 29.51 | 27.53 | 38.27 | 17.46 | 20.69 | 22.85 | 30.41 | 80.51 | 26.29 |
| 1960 .. | 41.50 | 46.37 | 55.15 | 26.00 | 27.55 | 32.05 | 37.90 | 91.79 | 30.23 |
| 1961 .. | 29.91 | 34.55 | 33.83 | 15.38 | 18.61 | 21.67 | 28.17 | 76.69 | 30.46 |
| 1962 .. | 37.60 | 35.48 | 47.17 | 20.07 | 29.93 | 30.12 | 29.96 | 105.99 | 37.07 |
| 1963 .. | 33.65 | 30.79 | 30.74 | 14.94 | 17.94 | 19.69 | 24.40 | 73.26 | 26.99 |
| 1964 .. | 50.44 | 45.49 | 57.47 | 26.56 | 30.98 | 32.05 | 36.65 | 115.97 | 37.45 |
| 1965 .. | 31.06 | 35.89 | 35.86 | 18.25 | 21.92 | 27.66 | 25.89 | 93.60 | 25.45 |
| 1966 .. | 31.63 | 38.41 | 34.47 | 21.40 | 25.15 | 31.03 | 28.72 | 78.02 | 26.04 |
| 1967 .. | 25.85 | 29.67 | 30.19 | 13.89 | 20.10 | 25.24 | 22.58 | 72.39 | 24.83 |
| District Average (a) | 39.60 | 37.01 | 37.97 | 21.91 | 26.59 | 29.26 | 32.43 | 91.08 | 28.96 |

(a) Long-term annual average based on 54 years of record.

Meteorological Conditions, 1967

The whole State had rainfall below normal. Least affected were the South East and Flinders Is. districts with 86 per cent of normal; worst affected was the Midlands district with 63 per cent. Actual annual falls ranged from 110 inches at some West Coast district stations to as low as 13 inches around Hamilton (Derwent Valley district) and in the Campbell Town and Ross areas of the Midlands district.

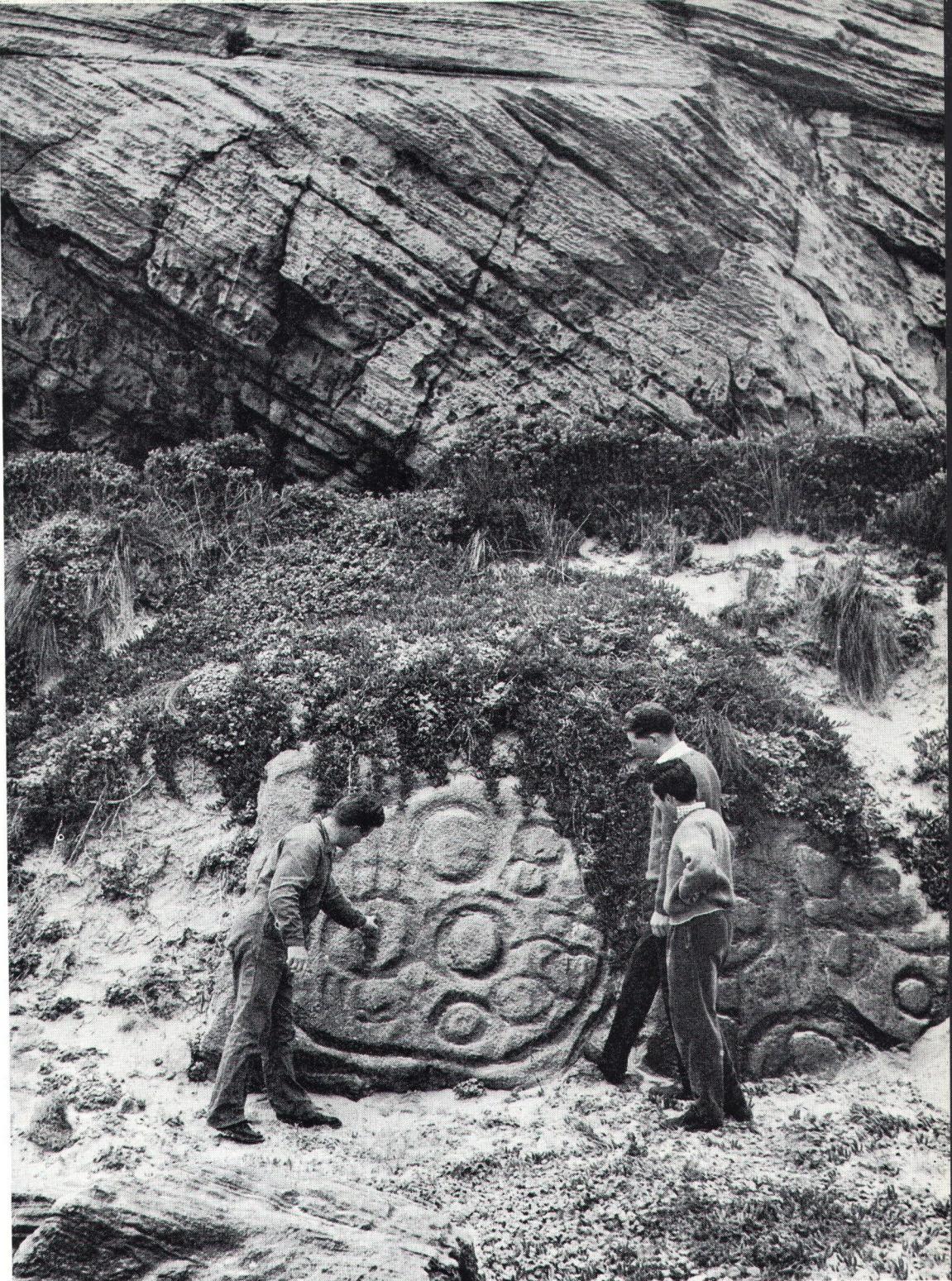
The most serious effect of the drought conditions was the depletion of the Hydro-Electric Commission's central plateau storages; the position deteriorated to the point where rationing of power became necessary, the first cuts operating from 1 October 1967.

After January, mean temperatures generally tended to be above normal and remained so until the end of August. In September and October, there were some upward and downward oscillations about the norm but November and December were marked by temperatures considerably below normal in most areas. The disastrous bushfires of 7 February must rate as the most notable meteorological phenomenon of 1967 (see the 1968 *Year Book* for a full account of the weather conditions which preceded the fires).

Gales on 22 January caused power blackouts and minor damage to property; earlier, storms on 16 January occurred in Southern, Western and Northern districts and some fruit was damaged. Light to moderate hail storms were recorded on 30 October. Light flooding affected the South Esk and Macquarie river systems in mid-July and extensive flooding was recorded for the South Esk, St Pauls, Macquarie, Mersey and Lake river systems from 20 to 23 August, highways and railways being cut.

Some light to moderate snow fell, mainly in the highlands, the most notable day being 25 April when the snowline was down to 800 feet in the south.

(The section on Climate was written from data made available by the Bureau of Meteorology.)



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Aboriginal carvings at Mt Cameron West

(Dept of Film Production)



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Tiger Cat (*Dasyurus maculatus*)

(Copyright: H. J. King)

Whitefooted Sminthopsis (*Sminthopsis leucopus*) of the pouched mice group and human fingers

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(Copyright: H. J. King)



THE VEGETATION OF TASMANIA

The following article was contributed by Dr Winifred M. Curtis, Research Fellow, University of Tasmania.

Introduction

Tasmania's rugged topography and diversity of soil and climate result in a wide range of habitats for plants. There are some 1,200 species of native flowering plants of which about 200 are *endemic*, i.e. peculiar to the Island State. This flora, while closely related to that of the Australian mainland, has also a very strong affinity with the floras of other southern lands, namely New Zealand and southern South America.

Except on the mountain summits, the climate of Tasmania is favourable for the development of forest, both temperate rain forest in areas having an annual rainfall of about 60 inches or more, and sclerophyll (eucalypt) forest in the drier parts. There are, however, considerable areas of sedge-moor and heath associated with particular types of soils; these are sometimes increased by the effects of repeated fires. Conditions for the growth of plants often change abruptly, particularly in mountainous country dissected by gullies, and juxtaposition of forest, sedge-moor and subalpine communities produces a mosaic-like pattern.

Temperate Rain Forest

Nothofagus and Atherosperma

In areas of high rainfall and suitable soils, temperate rain forests are found from sea level to an altitude of about 3,500 feet; corridors also extend into many of the deep sheltered gullies in eucalypt forests. The characteristic trees, *Nothofagus cunninghamii* (myrtle) and *Atherosperma moschatum* (sassafras), cast a deep shade and undergrowth is often reduced to a surface cover of liverworts, mosses and lichens with scattered areas of ferns. Corridor forests at low altitudes develop as fern gullies in which other species of trees appear. Often *Olearia argophylla* (musk), with sassafras, are the dominant trees forming a canopy above the tree ferns of which family *Dicksonia antarctica* is abundant and widespread, with *Cyathea australis* and *C. cunninghamii* local in distribution.

Nothofagus Distribution

The genus *Nothofagus* is of considerable interest to plant geographers. Representatives of the genus are found in South America (Chile and Tierra del Fuego), N.Z., Tasmania, and on mountain regions in south eastern Australia, New Caledonia and New Guinea. The fossil record, based on the study of the characteristic and well-preserved pollen grains, shows that during the early to middle Tertiary period *Nothofagus* grew, not only in the places where we now find it, but also in Antarctica, throughout southern Australia and along eastern Australia to the far north. In Antarctica and New Zealand, the record extends back to the Cretaceous. (The Cretaceous began about 135 million years ago, the Tertiary 70 million years ago.) *Nothofagus* is now found in practically all areas in the southern hemisphere that are climatically suitable but the problems of the origin of the genus and its methods of distribution are still debatable.

'Pines' and Blackwood

While *Nothofagus* and *Atherosperma* are characteristic and widespread throughout Tasmania's rain forests, other species are locally abundant. *Athrotaxis selaginoides* (King Billy pine) and *A. cupressoides* (pencil pine) are trees of 50 to 100 feet in height. They may be associated with *Nothofagus*

or they may form pure stands on slopes of the central plateau in high-rainfall areas, e.g. at Cradle Valley. *Dacrydium franklinii* (Huon pine), a fine timber tree characteristic of the banks of rivers near the west coast and of lakes on the central plateau, is no longer plentiful. *Acacia melanoxylon* (blackwood) reaches its greatest development in the swampy soils of the north-west.

Celery-top and Leatherwood

Where soils are acid and poor in mineral nutriments and the canopy of the rainforest becomes broken, other trees and also tall shrubs appear. *Phyllocladus aspleniifolius* (celery-top pine) is widespread and *Eucryphia lucida* (leatherwood) locally abundant. The latter sometimes grows to a height of 100 feet although more usually 25-40 feet. In late summer, the flowers make a spectacular display; they are white, about 1.5 inches in diameter and resemble wild roses. There are some six species of *Eucryphia*, two endemic in Tasmania, one in the Australian mainland and three in Chile. This genus constitutes the family Eucryphiaceae, formerly classified by Bentham (1864) in the Saxifragaceae, and by Bentham and Hooker (1865) in the Rosaceae.

'Laurels', Waratahs and Heaths

The tall shrubs of these forests include a number of endemics, many characterised by showy flowers or by bright fleshy fruits. *Anopterus glandulosus* (native laurel, family Escalloniaceae) is a handsome shrub bearing large terminal racemes of white flowers. The Proteaceae (waratah family) and Epacridaceae (heath family) are well represented. From the latter family, two endemic species are of particular interest. *Richea pandanifolia* (pandani or giant grass tree) has leaves three to six feet long, parallel-veined, hard, rigid and drooping, borne at the summit of a trunk which may be 20 to 30 feet high. *Prionotes cerinthoides* (climbing heath) is a climber or epiphyte not infrequent on the trunks of myrtle where it may reach a height of 40 feet above the ground. It forms pendant sprays of small evergreen leaves and crimson bell-like flowers. In the character of both leaf and flower, *Prionotes* differs somewhat from other representatives of the Epacridaceae but it resembles another monotypic genus (*Lebetanthus*) which is endemic in southern South America.

Impenetrable Scrub

Locally in poor acid soils where the water table is at or very near the surface an almost impenetrable scrub develops, the density of which is notorious. About five species are mainly concerned. *Leptospermum lanigerum* (woolly tea tree) forms dense stands of trees having slender, very tough trunks up to 50 feet high. The sedges *Gahnia psittacorum* and *G. sieberi*, appropriately called 'cutting grass', grow in clumps which are often more than six feet in height and breadth. *Bauera rubioides* (family Cunoniaceae) has innumerable thin, wiry, intertwined branches often spreading over other shrubs to a height of 12 feet or more. The most unusual growth form is that of *Anodopetalum biglandulosum* (horizontal), an endemic representative of the family Cunoniaceae. This is a small evergreen tree making a closely packed understorey in the forest or forming pure stands in gullies. The trees sometimes grow erect with trunks up to 45 feet high but, typically, slender saplings arch towards the ground and many erect branches arise from the almost horizontal trunks. The branches in turn bend over, interlacing with each other and with branches from adjoining trees. In this way, dense platforms develop at varying heights above the ground.

Mixed Forest

Where rain forest gives way to sclerophyll forest, there is an ecotone of mixed forest, the extent and character of which are largely determined by the incidence of fires. Eucalypts are able to establish in open ground cleared by

fire; at altitudes below about 2,500 feet *Eucalyptus regnans* (swamp or stringy gum), *E. obliqua* (stringy bark) and *E. delegatensis* (gum-topped stringy bark) tower above an understorey of trees and tall shrubs from the rain forest. In this understorey tree ferns are often abundant, their trunks clothed with epiphytes among which filmy ferns (Hymenophyllaceae) are prominent and *Tmesipteris* locally frequent. At higher altitudes, eucalypts characteristic of montane and subalpine communities are found in the ecotone and *Nothofagus* may be reduced to a bushy scrub below *E. coccifera* (Tasmanian snow-gum), *E. urnigera* (urn gum), *E. subcrenulata* (yellow gum) or *E. gunnii* (cider gum).

Subalpine Vegetation

Subalpine Communities

The subalpine communities of the mountains form a complex pattern determined by the varied habitats. Endemic conifers often form quite extensive forests; here *Abrotaxis cupressoides* (pencil pine) is usually dominant and the lower growing *Microstrobos niphophilus* and *Diselma archeri* abundant. In some of the moister environments stands of *Nothofagus cunninghamii* (myrtle), much dwarfed, extend to the tree line. A second species of *Nothofagus*, *N. gunnii* (tanglefoot), forms dense thickets on very exposed slopes. *N. gunnii* is an endemic species and Tasmania's only native deciduous tree; its leaves brighten the slopes in autumn by changing colour from green to vivid golden-bronze or red before they fall.

Subalpine Moorland

The term subalpine moorland is used to include a number of communities such as shrubberies, the assemblages characteristic of scree and mountain-top detritus, herbfields, swamps and bogs. Some shrubberies comprise conifers reaching a height of 6 to 8 feet, others consist of lower-growing plants, including the prostrate conifers *Podocarpus alpina* and *Microcachrys tetragona*, and with the families Compositae (daisies), Proteaceae (waratahs) and Epacridaceae (heaths) well represented. The plants of the heath community make a colourful display in summer and early autumn. The flowers of *Richea* (family Epacridaceae) are of particular interest; they are characterised by the corolla, the petals being joined to form a more or less conical cap which does not open when the stamens are mature but splits transversely near the base and falls in its entirety. *Richea scoraria*, which is abundant in the shrubberies, has flower buds ranging in colour from white to apricot, brick red, or deep crimson. The genus comprises some ten species of which only one occurs outside Tasmania, on mountains of the south-east of the Australian continent.

Micro-shrubbery

An interesting plant community, which may be termed a micro-shrubbery, develops on mountain-top detritus, on the margins of shallow pools and on gentle slopes where snow often lies for up to six months of the year. Five species of cushion plant are concerned. These plants are perennial, ever-green and much-branched with the main branches prostrate but sending up short, erect shoots that grow to an even height. The erect shoots are very densely packed; they bear stiff, closely imbricated leaves and adventitious roots. As growth continues, the lower leaves die and the debris, together with roots and with silt washed into the interstices, help to consolidate the mass. A plant spreads to form a mound which may be six feet or more in diameter, the surface flat or rounded and so firm as not to yield underfoot. The species involved are: *Abrotanella forsterioides* (Compositae family), which is able to grow at lower altitudes and in drier situations than the rest; *Pterygopappus lawrencii* (Compositae), distinguished by the sage-green colour of its leaves;

Dracophyllum minimum (Epacridaceae); *Donatia novae-zelandiae* (Donatiaceae); *Phyllachne colensoi* (Stylidiaceae). This plant community closely resembles those found in comparable habitats in N.Z. and in the Magellanic moorland of South America. The species of *Donatia* and of *Phyllachne* are common to Tasmania and N.Z.

As the cushion plants spread and adjoin, they form a mosaic which has a continuous level or undulating surface. These plants serve as seed beds for others; the white-flowered *Drosera arcturi* is often conspicuous and the endemic plantain, *Plantago gunnii*, is confined to this habitat. But a cushion plant does not continue to expand to an indefinite size; after a time it dies in the centre allowing the establishment of plants such as the fern *Gleichenia alpina*, *Calorophus minor* (syn. *Hypolaena lateriflora*, family Restionaceae), *Astelia alpina* (pine-apple grass, family Liliaceae) and also various shrubby species. One result of this method of growth is that the flow of water in the area is interrupted and conditions then favour the development of bog or swamp. In water-logged soils, *Astelia alpina* is locally frequent, often forming extensive mats which are firm underfoot. The leaves of this plant are closely tufted, lanceolate or ensiform and up to 12 inches long; they are very stiff and are held erect showing the lower surface which is silvery white and contrasts with the grey-green upper surface.

Herbfield develops on the better-drained soils; one of the communities is grassland characterised by representatives of the aggregate, *Poa caespitosa*; such areas are gay in summer with flowers, among which representatives of the Compositae (daisy family) are conspicuous, including *Celmisia longifolia*, *Erigeron pappochroma*, *E. stellatus* and *Craspedia alpina*.

Button-Grass Plains

Extensive tracts of country in climatic conditions suitable for the development of temperate rain forest or mixed forest carry sedge-moors which are given the descriptive name 'Button-grass plains'. The characteristic plant is *Gymnoschoenus sphaerocephalus* (button grass, family Cyperaceae) which grows in tussocks consisting of hard, narrow leaves, three to six feet long, and of slender spreading flower-stalks terminating in small spherical heads of flowers and fruits. This plant community is typical of wet infertile soils that are acid, podsolized and having a surface accumulation of peat. Reaching their greatest development on flat valley floors in areas of high rainfall, the tussocks extend from sea level and spread over hills until they give way to more drought-resistant or cold-tolerant plants of montane and subalpine regions. However, the boundaries of this community are not strictly limited by the nature of the soil and may be extended as a result of repeated fires. While button-grass is a characteristic and conspicuous plant, other monocotyledons, particularly representatives of the Restionaceae, are abundant and sometimes dominant. The yellow-flowered species of *Xyris* (family Xyridaceae) and mauve-flowered *Patersonia fragilis* (family Iridaceae) are widespread and, between the tussocks, small herbaceous plants are locally frequent. Where the soil becomes better drained, woody shrubs appear. *Sprengelia incarnata* (family Epacridaceae) is characteristic; others include species of *Leptospermum* and of *Melaleuca*, representatives of the Myrtaceae.

Principal Growth

Sclerophyll Forests

The sclerophyll forests dominated by *Eucalyptus* extend through a wide range of habitats from the margins of rain forests to exposed mountain plateaux and the relatively dry areas of the midlands. In the dry regions, the forest

becomes almost a savannah woodland with scattered trees of *Eucalyptus pauciflora* (cabbage gum) and a ground cover of grasses or low shrubs. Between the extremes there are considerable areas of rather open forest. Some 26 species of *Eucalyptus* occur in the State of which about half are endemic. Many of these species are highly variable and the forests show a complex pattern in which variants of one species give way to those of another, in response to slight changes in conditions, e.g. different soil-type or different aspect. Near Hobart a pattern is well shown on the low but much-dissected foothills of Mt Wellington. Here the sunny north-facing slopes carry the glaucous species *E. tasmanica* (silver peppermint) or *E. risdonii* (Risdon peppermint) while the south-facing slopes carry the non-glaucous species such as *E. obliqua* (stringy bark) and *E. viminalis* (white gum). In the open forests, subdominant trees include species of she-oaks, *Casuarina*, which often form societies on dry slopes, the semi-parasitic *Exocarpos cupressiformis* (native cherry) and wattles such as *Acacia mearnsii* (black wattle). *Banksia marginata* and *Acacia dealbata* (silver wattle) are widespread. Many low-growing shrubs contribute to a colourful show of flowers in spring, representatives of the Leguminosae (pea family), Epacridaceae (heaths), Compositae (daisies) and Rutaceae (boronias) being the most conspicuous.

Blue Gum

Eucalyptus globulus (blue gum) which has been chosen as Tasmania's floral emblem is, of all Australian eucalypts, the species that has been most widely introduced overseas. The tree has been established throughout the Mediterranean region and in highlands of the tropics in many parts of Africa and India; it is widespread in California and in parts of Chile, Argentina and N.Z. In many of these regions, the tree has become of considerable economic importance as timber, as a material for paper pulp production, and for fuel and oil. *E. globulus* is locally abundant in southern and eastern Tasmania; in well-drained soils and in sheltered valleys, it reaches a height of about 200 feet. The tree also occurs in restricted areas near the west and south coast, but, apart from local occurrences in southern Victoria, is native only in Tasmania.

In 1968, the Australian Post Office issued a 15 cent stamp featuring the Tasmanian blue gum (as one unit in a series showing the floral emblems of all States).

Coastal Heath Vegetation

On coasts, mainly in the north-west and north-east of the State, areas of infertile soils support only a heath vegetation of stunted trees and low shrubs. This community, like the sedge-moor, may extend beyond the infertile soils as a consequence of recurrent fires. Two species of grass tree, *Xanthorrhoea australis* and *X. minor*, are locally frequent. These are bizarre plants producing a large number of rigid, persistent, narrow-linear leaves, often 2 to 4 feet long and tufted at the top of a stout stem. In *X. australis* the stem may form a trunk one or two feet high. The flowering stems are erect, typically solitary, and, again in the larger species *X. australis*, from 3 to 8 feet high, having the upper half very densely crowded with small bracteate sessile flowers that form a narrow-cylindrical spike. The flowers are white but after they have withered, the dark brown fruiting spikes are long-persistent. The genus is confined to Australia and has been classified in several ways. The structure of an individual flower is essentially that of a member of the Liliaceae and the genus has been placed in this family by Engler and Prantl (1930). Bentham and Hooker (1883) classified the genus in the Juncaceae, while Hutchinson (1934) placed it in the family Xanthorrhoeaceae, in the order Agavales. A commercially valuable resin is obtained from the stem.

BEECH FOREST DISTRIBUTION

In the previous flora section, Dr Curtis touches on the problem of beech forest distribution: 'The problems of the origin of the genus and its method of distribution are still debatable'. At the 1949 A.N.Z.A.A.S. Conference at Hobart, Professor H. D. Gordon of N.Z. gave an address on *The Problem of Sub-Antarctic Plant Distribution* and expressed the view that the migration of *Nothofagus* demanded a land continuity assumption (as opposed to a trans-oceanic seed dispersal assumption). The following article presents, in very condensed form, Professor Gordon's main line of argument as it affects beech forest, and has been included to indicate the broad nature of the debate which still continues on problems of plant distribution. Tasmania's beech forests link it botanically with places as far distant as South America and Antarctica, so the island's flora has a prominent place in the debate.

The Problem

The Tasmanian myrtle (*Nothofagus cunninghamii*), more correctly called beech, belongs to the genus *Nothofagus* which is found at widely scattered places in the southern hemisphere; representatives of the genus occur in South America, N.Z. and mountainous regions of south-eastern Australia, New Caledonia and New Guinea. The Tasmanian representative, *N. cunninghamii*, can grow as low as sea level since the right environment, giving suitable precipitation and cool climate, can be found at this altitude in some localities. The more northern appearance of the genus, in New Guinea for example, demands a mountainous location to give the cooler climate. Tasmania's isolation as an island only about 11,000 years ago explains easily enough the distribution of the genus here and on the Australian mainland, but its location in places as far away as South America presents plant geographers with a difficult problem.

The complexity of the problem is increased by fossil discoveries in Antarctica and N.Z., showing that *Nothofagus* grew in these areas as far back as the Cretaceous period (over 70 million years ago). Fossils dating from the early to middle Tertiary show the genus was growing, not only in Antarctica, but throughout southern Australia and along eastern Australia to the far north (the Tertiary began 70 million years ago). The essence of the problem, then, is to account for the present distribution of the genus in scattered localities, separated by wide and deep oceans; the problem is, of course, not confined to *Nothofagus*, or even to the plant kingdom, since some present and past genera of fauna show equally confusing geographical patterns. This article, however, restricts the discussion mainly to *Nothofagus* because this genus seems to require a particular mode of migration.

Methods of Distribution

In the matter of plant distribution, there have been two conflicting schools of thought, one believing in the possibility of trans-oceanic seed dispersal, the other claiming that only greater continuity of land in the past could have permitted the required migrations.

Trans-oceanic Seed Dispersal

Apart from floating seeds, dispersal may be by winds, birds and other animals, floating logs, drifting pumice, etc. In general, the theory has maximum validity over short distances, and becomes more speculative when long distances are involved.

Trans-oceanic seed dispersal is nevertheless an accepted fact, the classical case being the botanical recolonisation of Krakatau in the Sunda Strait between Java and Sumatra; the island erupted in 1883, destroying all its vegetation and yet, within 50 years, its mountain slopes were reclothed with dense tropical jungle. Recolonisation was pioneered by sea-borne strand plants, and coastal communities like *Pandanus* forests gradually developed. Later, wind-borne

and bird-borne plants became more numerous and the hilly jungle grew again, complete with lianes, ferns and mosses; some 250 species of plants have reached the island. Before accepting Krakatau as a basis for sweeping generalisation, it should be noted that it is only 25 miles from Java and not much more from Sumatra; that this is a lush, tropical region; and that the trans-oceanic importations did not have to compete with plants already in occupation.

Land Continuity Theories

The word *theories* is deliberately put in the plural, but two examples only are quoted: (i) the antarctic continent was formerly more extensive, was continuous with similar extensions of the present continents, and was the home of those plants now called the sub-antarctic flora, or their ancestors; such plants are supposed to have migrated northward to all the attached continents before they became detached, and before glaciation exterminated the flora of Antarctica itself; (ii) a northern and southern continent floated in a dense layer of the earth's crust, and both broke up to form separate continents which have gradually drifted apart and are still so drifting; the recent botanical application of this *continental drift* theory maintains that the sub-antarctic flora is that which occupied the parent southern continent, including the lands in which they grow today as well as that part which is now Antarctica. Theories of this kind cannot be tested purely in terms of botanical distribution, fauna distribution or the fossil record; they are, in fact, basically geological hypotheses and this article makes no claim to prefer any particular set of premises. The important point is that there are theories, widely accepted, which postulate greater continuity of southern land masses in earlier times.

Beech Forest and Associated Life

(i) In South America, Australia, Tasmania and N.Z., certain *Nothofagus* species are found in association with a parasitic fungus genus, *Cytaria*; this parasite will accept no other host.

(ii) In South America, Australia, Tasmania and N.Z., the wet moss in the beech forests is the home of Peloridiidae, a family of primitive sucking bugs; the bugs are not absolutely restricted to beech forest (other wet forests will do), but over most of this area it is only beech forests that fill this role. The insects must remain in the wet moss, because they cannot survive in dry air.

(iii) Wherever found, *Nothofagus* has epiphytic or associated moss saturated with fresh water.

(iv) The species of the tree and its three associates vary from place to place, but the corresponding species are all related and must have diverged after geographical separation.

Conclusion

Given the forms of life found in association with *Nothofagus*, it would appear that, to satisfy the theory of trans-oceanic dispersal, the beech nut, the parasitic fungus, the epiphytic moss saturated with fresh water, and its dependent type of insect would all have needed to cross wide stretches of ocean; on arrival, the four life forms would have needed to find a suitable environment, cool with adequate precipitation. The difficulties inherent in making these assumptions with any confidence tend to strengthen the view that the migration route of the southern beech forests must have been continuous (or almost continuous) land with a cool moist climate, though these conditions need not have applied to the whole area simultaneously.

THE MARSUPIALS OF TASMANIA

Mammals and Marsupials

The Sub-Classes of Mammals

Mammalia was the term invented by Linnaeus in 1758 to include that class of animals in which the young are brought forth alive and nourished with milk from the mother's breasts. At this point of time, two mammalian sub-classes were known, the first including man, monkeys, dogs, whales, cows, etc. and the second the marsupials, their existence having been established in 1500 by the Pinzons when they took a Brazilian opossum back to Granada. The discoverers of Australia then slowly expanded the coverage of the marsupial sub-class by reporting kangaroos, wombats, bandicoots, 'opossums' and the wolf-like thylacine.

The Australian continent was also the home of the platypus and the echidna with the result that a third mammalian sub-class had to be formed, these egg-producing creatures satisfying other mammalian criteria (which had now been expanded beyond the mere mechanics of reproduction).

Tasmanian Mammals

Tasmania's indigenous fauna provides examples of all three mammalian sub-classes: (i) Prototheria, represented by *Ornithorhynchus anatinus* (platypus) and *Tachyglossus setosus* (an endemic species of echidna); (ii) Metatheria, represented by 19 species of marsupials of which seven are endemic; (iii) Eutheria, represented by 5 species of native rodents and six species of bats. An important distinction between Tasmania and continental Australia is the absence, in this island, of two eutherian predators: the dingo, widespread in Australia when the first white settlers arrived, and the fox, introduced by the settlers there in the nineteenth century.

Marsupial Characteristics

The term marsupial is applied, in general, to animals which, after bearing young in an immature state of development, suckle the offspring in a pouch. Thus the young of marsupials, from conception, may be traced through two stages: (i) gestation; (ii) pouch life; in the case of the Tasmanian devil, for example, gestation is about 31 days and the pouch life about 4½ months.

In the larger marsupials, for example the kangaroo, the new-born are small and poorly developed, except for the fore-limbs which are proportionately very large and tipped with strong claws; the hind legs at this stage may be only embryonic buds. The young are about an inch in length, naked of fur, blind and with ears hardly visible. The female kangaroo, at parturition, sits with her tail brought forward between her legs and spends some of her time scratching at her pouch and licking it. When the offspring emerges from the cloaca, it climbs by its clawed fore-limbs into the pouch and reaches the teats, one of which it eventually fastens to with its mouth.

The tip of the teat expands within the mouth so that the young kangaroo cannot be released without rupturing the sides of its mouth and, for a start, the body grows without any corresponding increase in the size of the mouth. The end of the offspring's pouch life draws near when it is freed from the teat; it then begins to eat vegetation by leaning from the pouch when the mother herself is feeding.

The pouch itself exhibits considerable variety, opening downward or backward in some marsupials, or forward or upwards in others; the kangaroos, for example, which rest in a sitting position, have pouches opening upward.

The period of dependency of offspring does not necessarily end when the young leave the pouch. For example, young bandicoots live on in the mother's nest until they are able to look after themselves.

Isolation from Mainland

About 30,000 years ago, a great increase in the volume of world ice caused shorelines to fall hundreds of feet below their existing level. Eventually the melting of this ice reversed the process and a slow, great flooding began, one result being the formation of Bass Strait and the isolation of Tasmania as an island. By interpolation on recently published curves for world sea level changes, this event dates back about 11,000 years.

Because of this land link in comparatively recent times (in terms of the geological time scale), it is not surprising that Tasmania should have few endemic marsupials. The two most quoted examples are the Tasmanian tiger and the Tasmanian devil (*Thylacinus cynocephalus* and *Sarcophilus harrisii*) but allied species are known to have lived in continental Australia, despite the fact that they were extinct there before white settlement began. It is true that, putting aside the tiger and the devil, there are five other endemic marsupial species but these are closely related to corresponding continental species. All Tasmanian marsupials are indigenous with one exception; the exotic species is the sugar glider or flying possum, *Petaurus brevicauda*, Victorian specimens having been brought to the island in the period 1835-1837 as pets, only to escape and take to the bush.

Arrangement of Species

The pouched mice, native cats, Tasmanian tigers and Tasmanian devils all belong to the family Dasyuridae, a group of the superfamily Dasyuroidea. However, the grouping of the Tasmanian marsupial species in the sections that follow is not made in conformity with any scientific principle but is based, in the main, on the common names of the animals (e.g. 'possum' as a heading covering five species, the nexus being the fact that the common name of each contains the word possum).

The Major Carnivores

(1) *Thylacinus cynocephalus*

The Tasmanian Tiger apparently earned this title from the 13-18 stripes on the rump but the animal is much more akin to a very large dog or a wolf if an analogy must be sought. The tail is long, rigid and slightly compressed laterally. Thylacines of up to six feet total length have been known.

Thylacines are carnivorous animals and naturally turned to sheep killing in the days of early settlement; from 1888 the government paid a bounty of \$2 per head for them and they were vigorously hunted up to the turn of the century. From about 1914 the species became very rare whilst today, for all practical purposes, the animal is extinct. Reported sightings still are investigated from time to time and the discovery of pad marks and other evidence have revived hope that the species may still exist; for many years now, however, no capture has been made. To most Tasmanians, the tiger is only a picture in a book but some of the older generation had the opportunity of seeing live specimens in a Hobart zoo in the 1920s.

(2) *Sarcophilus harrisii*

The early settlers were unable to adequately compare this animal with anything in their experience and therefore coined the name Tasmanian Devil; the head, equipped with massively strong jaws, is large and broad at the base

and this makes the hind quarters appear relatively weak and out of proportion. The devil is black with white chest, shoulder and rump markings although occasionally all-black specimens are found.

Unlike thylacine, the devil is still very common, particularly on the west coast and in the north-east, and is spreading into other areas where it had not been seen in living memory. The animal is carnivorous and not fastidious, so in disposing of prey or carrion it eats the lot—skin, fur or feathers, and intestines; its sight is better adapted to night hunting and is defective in daylight.

March is the main breeding month and three or four young are born after a gestation period of about 31 days. The offspring are then reared in the pouch for about 4-5 months. It has been observed that, in captivity, the male eats the young; possibly in the natural state, the male is driven from the den when offspring are being reared.

(3) *Dasyurus maculatus*

Tiger Cat is not a happy choice of name for this animal; the head is most ‘uncatlike’, resembling more that of a weasel or similar species and its characteristic spots, on body and tail, are most ‘untigerlike’. Possibly the tiger prefix is a tribute to the creature’s reputation as a courageous and fierce fighter. Specimens of up to four feet in length have been recorded; the animal is usually dark brown in colour although black varieties are common. It is a good tree climber and can therefore rifle birds’ nests but it preys also on small mammals and reptiles, with poultry yards as occasional targets.

The main mating months are June-July, with gestation lasting about three weeks. The tiger cat’s pouch contains six nipples in which four to six offspring are reared for a further three months. The species is widely distributed in the eastern States from mid-coastal Queensland to Tasmania; within the island, it is widespread but not as common as the native cat.

(4) *Dasyurus quoll*

The Native Cat (*D. quoll*) has a spotted body but not a spotted tail, and this is the easiest way of distinguishing it from the tiger cat (*D. maculatus*); in general, it is smaller and less fierce than the latter. Specimens range in colour from sandy through olive-grey to black, but the lighter spots are always present.

The main breeding months are from late May to early August and 20 to 25 embryos may be born, of which only six have a chance of living by attaching themselves to nipples within the pouch. The species is widespread in the eastern States from N.S.W. to Tasmania; it occurs also on King Island.

Possoms

(5) *Trichosurus vulpecula*

The Brush Possum is not so exclusively arboreal as the ringtail and spends some of its time on the ground. Its long, bushy, prehensile tail has the inner surface naked at the end and this helps distinguish it from the ringtail which has a tail covered by short hair and marked by a prominent white tip. In general, brush possums are larger than ringtails and range in colour from grizzled grey through rufous brown to black, the underside being invariably lighter; the black specimens are usually found in the wetter parts of the island. Cream or silver colouring has occasionally been recorded.

The female breeds twice a year, March and August being the main months, and the gestation period is 16 to 21 days. Since the offspring, usually one or

sometimes two, remain in the pouch for five months, female brush possums taken at any time of the year are likely to be carrying young. The species is widespread throughout Tasmania and found also in eastern Australia.

(6) *Pseudochirus convolutor*

The Ringtail Possum can be distinguished from the brush possum by its tail (see previous section), and varies in colour from dark grey to dark brown or even black. More strictly arboreal than the brush possum, it is widespread in Tasmania but is thought to suffer severely from natural population cycles; the numbers fell off greatly about 1951-52 and have been slow to recover. The ringtail lives in most types of country except plains and possibly rain forest. Eucalypt leaves and young shoots form the main item of food; if it raids an orchard, the ringtail will attack young shoots.

Young are found in the pouch during most months of the year, but especially in winter. Gestation may result in the birth of as many as six young but only two can survive (the pouch contains four teats but only two are functional). The species is found also in the Bass Strait islands but not on the mainland of Australia; however, a related species lives there.

Ringtail and brush possums are hunted for their skins but are partially protected by short game seasons (or total prohibition for a year or series of years, as for the ringtail). Other species given the name possum are described in the following sections.

(7) *Cercartetus nanus*

The Pigmy Possum (*C. nanus*) is less than six inches in body length and is hard to distinguish from an allied species, *C. lepida*. The ears of *nanus* are broader and larger, and *lepida* is the smaller in body length, the snout-rump length being less than three inches. One peculiarity of both species is a swelling of the tail at the base, especially in autumn, due to the deposition of fat.

The pigmy possum makes a nest in the bark of trees and lives on nectar, blossom and insects; it hibernates for a period in winter. The species occurs also in the eastern States as far north as south-east Queensland and in S.A. but little is known of its Tasmanian distribution; Tasmanian specimens have been recorded at Cullenswood in the north-east and Franklin in the south.

(8) *Cercartetus lepida*

The Little Tasmanian Pigmy Possum (*C. lepida*), on superficial examination, appears to be a diminutive of *C. nanus* but there is sufficient differentiation to label it as a separate species. Specimens have been caught in places as widely separated as Tyenna and Port Davey in the south and near Launceston in the north. The species is confined to Tasmania.

(9) *Petaurus brevicaudatus*

The Sugar Glider, often called the flying possum, is readily distinguished by the beautiful, soft, dove grey fur and by the presence of the gliding membrane which runs down the side of the body. The tail is long and bushy with a dark tip. A dark stripe runs along the head and down the back. The species is not a native of Tasmania and was introduced from Port Phillip into the north by travellers who had made pets of the creatures in the period 1835-1837.

The creature lives on insects, fruits, buds and blossoms, and the female bears two offspring each season, usually in June or July. It is now widely distributed in Tasmania and is found in the eastern States of Australia, and even in the Northern Territory.

Pouched Mice(10) *Antechinus swainsonii*

The Dusky Marsupial Mouse is dark brown in colour with a lighter belly; it has small ears and white on its tail which is hairy and almost as long as the body. The relation of tail to crown-rump length establishes the distinction between *A. swainsonii* and *A. minimus*; in the former species, the tail is shorter than this length, in the latter, longer. The snout-rump length is known to be as great as six inches in *A. swainsonii*.

Eight or nine young are born in July or August and are carried in an incomplete pouch for some seven to eight weeks; the offspring then commence nest life when their eyes open and their fur has developed. The species has been recorded at Maydena, Orford, Nietta, Lake St Clair, Dromedary and Sandy Bay but, due to its habits, it is rarely encountered. There are two races of this species, the one confined to Tasmania and the other occurring in the highlands of Victoria and N.S.W. The mainland race has thinner fur and the underside is dark brown with a red-yellow tinge.

(11) *Antechinus minimus*

The Little Tasmanian Marsupial Mouse can be distinguished from *A. swainsonii* by the tail relationship described in the previous section; in general, *A. minimus* is a smaller species and is characterised by a blunter face. The species is confined to Tasmania and the Bass Strait islands.

(12) *Sminthopsis leucopus*

The Whitefooted Sminthopsis has a very sharply pointed snout, white feet and a white and hairy tail, tufted at the tip. The body is dark grey to black, but the snout and ears are fawn colour. The species is rarely encountered but is distributed in the eastern States from Victoria to south Queensland; recent specimens have been recorded at Hawley in northern Tasmania and at Orford in the east.

Bandicoots(13) *Perameles gunnii*

The Barred Bandicoot is easily recognised by having four or five dark bars across the rump; the tail is short, the snout long and the ears are almost rabbit-like. The colour is light whitish fawn, the bars are dark brown and the tail and undersurface near white. The animal lives in open country and lightly timbered areas in nests constructed in grass tussocks; its main food is vegetable matter and insects.

Three or four young may be born at any time of the year and the pouch has eight teats. The period of immaturity is spent first in the pouch and later in the nest. The species is widely distributed in Tasmania in suitable country but is not found in continental Australia; it closely resembles a mainland species, the eastern barred bandicoot, *P. fasciata*.

(14) *Isoodon obesulus*

The Short-nosed Bandicoot is usually light brown, coarse-haired and near white underneath; the tail is short, thinly furred and somewhat scaly. The absence of dark bars on the rump easily distinguishes it from *Perameles gunnii*.

This animal tends to live in thick scrub country where it makes a nest of twigs, leaves and earth to blend with the surroundings; it is mainly an insect eater and digs after its prey. It is a hopper, rather than a walker, moving both hind feet simultaneously and is chiefly nocturnal in habit.

The main breeding season is in June and July, with four offspring as the usual outcome. The pouch has eight nipples and the young, after leaving the pouch, live on in the nest. The short-nosed bandicoot is widely distributed not only in Tasmania but also in the eastern States.

Wallabies and Kangaroos

(15) *Wallabia rufogrisea*

Bennett's Wallaby has a long face and long ears; the tips of the ears and the end of the snout are dark. The usual colour is reddish brown with a grey undersurface, though grey and dark individuals are common. The back is often greyish. This species can be distinguished from the pademelon (*Thylogale billardierii*) by the foot length: between 150 and 250 mm in the wallaby, but under 150 mm in the pademelon; another difference is that the pademelon's face and ears are much shorter and the snout blunter.

Bennett's wallaby inhabits relatively open country (when compared with the pademelon which prefers the thicker scrubs) and is often wrongly called a kangaroo. The main breeding months are January and February, gestation lasting about 40 days. One young is usually carried though twins are not uncommon and triplets have been recorded. Life in the pouch is very prolonged and the young do not leave it before November or December. The species is very widely distributed in Tasmania in open savannah woodlands, coastal scrub, sclerophyll forest and on the fringes of pastoral clearings. A species of the same name (*W. rufogrisea*) is found in continental Australia but the mainland wallaby is larger in size and has a shorter coat. The Tasmanian animal is sometimes referred to as *W.r. bennetti*.

(16) *Thylogale billardierii*

The Pademelon is usually called a wallaby but the previous section gives the way of distinguishing it from a true wallaby; its colour can be one of many shades of brown, with dark reddish brown the most common. The ventral surface tends to be yellow-brown or reddish.

Breeding takes place in the summer but young may be found in the pouch throughout the year; only one young is usually carried. The animal is widespread in Tasmania, preferring the thicker lower scrubs for its habitat.

(17) *Macropus giganteus tasmaniensis*

Tasmania has only one species of kangaroo, the Forester Kangaroo, and it can easily be distinguished by its size, often five feet or more in height. The colour is grizzled grey and the fur is rather coarse; the nose is hairy.

The main mating month is December, the gestation period lasting about 40 days. Life in the pouch is very prolonged and the young quit it after about ten months. The Forester kangaroo was once very widespread in Tasmania but is now confined to the north-east and east; it is a wholly protected species. The species *Macropus giganteus* is widely distributed in continental Australia and *tasmaniensis* is a sub-species.

Rat Kangaroos

(18) *Bettongia cuniculus*

The Bettong is the largest of the rat kangaroos and superficially resembles a small wallaby; the easiest distinguishing feature is the tail, which, in the bettong, is laterally compressed and usually white-tipped. Another animal it resembles is the potoroo and in this comparison, the basic relationship is between hind foot and head; in the bettong, the hind foot is longer than the head but, in the potoroo, the hind foot is shorter.

The face of the bettong is shorter than that of the potoroo and the animal ranges in colour from sandy to dark brown, with the undersurface lighter. The species is widely distributed and lives on the fringes of forests or in lightly forested areas, as compared with the potoroo which prefers low thick scrub and the fringes of rain forests. Bettongs are nest builders, using bark or grass, and eat mainly roots; favourite sites for nests are hills exposed to the sun, with light timber and grass cover.

The breeding season is long, from at least March to December, and the gestation period is about six weeks; the one young spends about four months in the pouch, although twins are sometimes carried. The species is confined to Tasmania and is sometimes known as the Tasmanian rat kangaroo.

(19) *Potorous tridactylus*

The Potoroo can be distinguished from other macropods by the hind foot being shorter than the head; the snout provides an alternative name, long-nosed rat kangaroo. The usual colour is dark brown, with the under-surface greyish brown. The animal avoids open country and inhabits thick scrub where its diet is mainly roots.

The gestation period is about 35 days, when one young is born; it then lives in the pouch for about 135 days. The pouch contains four nipples and young may be found in the pouch of captives taken at any time of the year. The potoroo is widely distributed in Tasmania and was once common in the eastern States but is now believed to be almost extinct there.

Wombats

(20) *Phascolomys ursinus*

The Wombat is often called a badger, on account of its robustness and burrowing habits, but it far excels the true or placental badger in strength and in ability to dig deep tunnels with great rapidity. The animal is squat and bear-like in shape, powerfully built and with a very small tail. The usual colour is brown though grey and buff variations occur.

The animal usually lives in a burrow, though caves or piles of rocks may also serve for a den; it feeds on herbage and grasses and prefers open forest country or rocky areas, from sea level to as high as 3,000 feet. It avoids thick rain forest, probably to get freedom of movement. The wombat family is widespread in Tasmania and on the Australian continent, but its reproductive habits are not completely known; the young, usually a single individual, is born in the autumn, but there are two nipples available for suckling.

Protection Policy

The preservation of the State's indigenous animals is a major aim of the Animals and Birds Protection Board and, under State legislation, species may be declared wholly protected or partially protected. Wholly protected marsupial species include the pouched mice, the pigmy and flying possums, the native cats, the Tasmanian tiger and devil, the bandicoots, the Forester kangaroo, the bettong and the potoroo.

The brush possum and the ringtail possum are partially protected species, the animals being hunted for their skins; 'partially protected' means that the Board can nominate the opening and closing days for the hunting period, or alternatively keep the season closed for years at a time. The main consideration is the survival of the species and, due to low ringtail numbers, there has not been a season declared for some time. The two wallabies, Bennett's and the pademelon, are also partially protected, the question of open or closed seasons

being a little more complex; not only are they hunted for skins and meat but, if allowed to thrive on the fringe of settled areas, they become a pest, attacking farmers' crops and competing with farm animals for the grass and herbage on pasture lands. The wombat is not protected but the survival of the species is assured; the animal, being a burrower, is something of a nuisance on farm properties but is not hunted for skin or meat in the bush and few would destroy this harmless, attractive creature without good reason.

In addition to the protection measures just described, there are, of course, national parks and game sanctuaries where no hunting or destruction is allowed at any time of the year.

In the 1967 season, the number of skins taken by hunters was: possum, 104,488; wallaby, 26,308; pademelon, 30,122. The police, who issue hunters', sellers' and dealers' licences, obtain a count of skins from royalty payment collections.

(Further reading: (i) *Marsupials of Tasmania*, author Dr E. R. Guiler, booklet of Tasmanian Museum and Art Gallery. (ii) *Marsupials*, article in Encyclopaedia Britannica.)

ARCHAEOLOGY (STUDY OF THE TASMANIAN ABORIGINE)

In the 1967 Year Book appeared an article headed 'The Aborigines'; this was a summary of traditional and widely-held views on the nature and origin of the race. Recent archaeological work is throwing new light on the Tasmanian native, supplying answers to the questions posed by earlier investigators and destroying some of the legends and myths that have gained wide acceptance. One scientist engaged in active field research is Mr Harry Lourandos, B.A. (Hons), the Archaeologist of the Tasmanian Museum, and he has written the following article to show the trend of modern thought.

Early Contacts

The Tasmanian aborigine was first observed in 1772 and has therefore been known for 200 years. Observations have been multi-coloured and conflicting, and have served to give him a discrete and often quaint place in Anthropology. The navigators and scientists of the late 18th century, especially the French, saw the Tasmanian as Rousseau's 'noble savage' and drew him athletic, tall and with flowers in his hair. The early settlers were amazed to meet such opposition to their take-over of the native hunting grounds for grazing land, and had little sympathy with the Tasmanian race or its culture. By the end of the first generation of settlement (in the 1820s), the race was dying and unstudied, the cause being introduced disease together with economic and social disruption.

The Legend of the Aberrant Tasmanian

Towards the end of the 19th century, there grew up an international interest in the Tasmanians. The maturing discipline of Social Anthropology rediscovered the race, unfortunately then extinct, and used it to explain current ideas of social evolution; to this group of anthropologists belonged Tylor and Ling Roth. The Tasmanians' extremely rudimentary culture secured them a place very close to the beginning of the social tree, and this was the start of the confusion that was to permeate all Tasmanian studies. A *primitive culture*, according to these theorists, needed a complementary *primitive human type*, and a few of the peculiar physical characteristics of the Tasmanians (such as their curly hair) were adopted as criteria for segregating the group from the rest of humanity.

To explain the natives' presence on an isolated island, differing theories evolved: (i) of refugee Australians repulsed by superior immigrants settling in the extremes of the south-east; (ii) of overland crossings when Tasmania

was a mainland peninsula, or later crossings by sea; and (iii) even of migration by sea from New Caledonia. The myth of the aberrant Tasmanians had been established but world interest dropped in the early 1900s with the awareness that these questions of race, culture, migration, and initial date of settlement were not being answered. Valuable studies of the race were continued until the present decade, but the investigators were mainly local and amateur; prominent were A. L. Meston, a superintendent of high schools, and Sir William Crowther, a medical practitioner.

'The Australian Tasmanian'

A New Approach

In the late 1950s and early 1960s, the growing discipline of pre-historic Archaeology, with its meticulous and controlled techniques of excavation, together with the related discipline of physical Anthropology, began to take a renewed interest in the Tasmanian and his culture. This time the interest came from Australia and gave birth to a broader study, including complementary work by local geographers, geologists and botanists. Many of the questions asked are the same but the approach is becoming more and more based on ecology, studying the Tasmanian together with his habitat.

Physical anthropologists, from their studies of the available Tasmanian skeletal evidence, have shown that the race fits well within the range of the Australian aboriginal population and the Tasmanian is then seen as a south-eastern extension of the Australian population, a view which is increasingly held by archaeologists. Two examples of archaeological support for the theory of 'the Australian Tasmanian' follow.

The Record of the Tools

Stone tools similar to the range used by the Tasmanians have been found generally across eastern Australia and have been dated from a shelter in South Queensland to a period about 16,000-5,000 years ago. Starting about 5,000 years ago on the mainland, there was a development in stone tools and probably other cultural features, due to much cultural stimulus from within Australia and from without. In contrast, the Tasmanians' isolated position produced only minor modifications in their way of life and their stone tools, resembling the earlier Australian assemblage, appear to have undergone no detected change up to the time of European settlement.

The Record of the Coasts

Carbon samples from Tasmania's north-western Rocky Cape cave (Rhys Jones) indicate that its earliest occupation by man goes back about 8,000 years from now. Similar and slightly older dates have been recorded for a coastal shell midden on the Carlton estuary, in the south-east, and no dates have yet been secured for inland sites. As all known dates agree with the maximum age of the present coastline, it is reasonable to believe that older occupation sites may have existed on an earlier coastline and been drowned by the rising post-glacial sea. The evidence and argument are powerful, therefore, that the Tasmanians were already settled at the time of the establishment of the present coastline; and also, that earlier they were engaged in settling the peninsula of Tasmania and were isolated from the mainland as the sea rose, creating the new island.

North-West Coasters and Easterners

Recent Excavations

The evidence from Rocky Cape suggests that its earliest inhabitants were coastal fishermen and sealers, checked from penetrating inland by the

thick rain-forest which backed the coast. Whether the earliest easterners, living in dry sclerophyll bush-land, were also coastal or had already penetrated the hunting grounds of the hinterland is still a problem.

Two lots of recent excavations have been carried out in Tasmania, one in the north-west, the other in the south-east: (i) in 1963-1965, four sites were excavated by Rhys Jones (University of Sydney), three coastal caves along the rocky coast between Rocky Cape and Boat Harbour, and a large coastal shell midden at West Point, west of Marrawah; (ii) early in 1968, H. Lourandos excavated a shell midden on the Little Swanport estuary, and an open lake-site camp in the Midlands stratified along the top of a lunette (dune) at Crown lagoon, Lemont. From this group of complementary excavations, a few major points can be drawn, as detailed in the next section.

The Findings

The early north-west coaster was semi-settled and his seasonal settlements were regulated by the seasonal movements of the colonies of elephant seals and fur seals in the region. West Point has yielded a vast bulk of seal bone evidence, together with ratios of bones of other animal species, and it can therefore be described as a short-term seasonal camp based on sealing and terrestrial hunting. Other sealing sites exist across the north-west, including the Rocky Cape area.

In contrast, the easterner appears to have been a nomadic hunter and forager, moving from the coast and estuaries as far west as the hunting grounds of the Midlands and the 3,000 foot Central Plateau and following a network of rivers, marshes and lakes. The archaeological sites in the east are highly specialised, each showing a different and separate aspect of nomadic activity (as compared with the north-west where evidence of a number of activities is found at a single site). Even at this early stage of analysis, the Little Swanport midden can be described as predominantly a shell-fishing ground, a place where women did the work, in contrast to the hunting camp at Crown lagoon twenty miles or so inland. From field studies, both sites appear typical and primary in the south-east together with a third, the ubiquitous quarry where stone tools were made.

From Rocky Cape, a sequence indicating a modification of the original Tasmanian way of life has been worked out. It indicates a change from a coastal to a mixed coastal and hunting existence, possibly as sealing decreased, over the 8,000 years of occupation. One change was the gradual abandonment of scale-fish fishing, and of certain bone tools, about 5,000-6,000 years ago. Evidence from Little Swanport suggests similar changes.

Interpretation

The overall interpretation is as follows: that isolated for a vast length of time, with little natural or human competition, the Tasmanian had had his original way of life whittled down to its most basic and facile level. Tasmania is a wealthy habitat; the archaeological evidence indicates that the aboriginal penetration of the island was almost total, and only checked by the boundaries of the western rain-forests. Even these areas, as demonstrated by botanists and geographers, were affected by the natives who burnt off large areas on the perimeter to extend existing hunting grounds; this is especially true of the west and north-west coasts where the rain-forests have again encroached towards the sea, now that the Tasmanian is extinct. Gradual, constant burning off provided them with continually rejuvenated hunting grounds. Contemporary estimates of their population ranged from less than 2,000 to over 10,000. A

conservative estimate is probably more accurate, given that maximum population would not have been reached because maximum exploitation of the coastal habitat was not carried out. For they had ceased to fish.

Culture

Generally aboriginal culture throughout Tasmania appears to have been basically uniform, with a natural cleavage between east and west based on geographic and climatic differences. One other archaeological feature distinguishing the two are rock carvings which extend across the west and north-west but are unknown elsewhere. The one contemporary interpretation of these was that they symbolised the sun and the moon and corresponded to the common Tasmanian custom of body-scarring. Hand stencils have been found on the central Derwent River, and bark paintings and carvings were recorded by observers such as Peron of the Baudin expedition on the east, and on Maria Island. Cremation as the commonest burial rite was widespread; it was reported on the east and south-east and located by excavation at West Point (Rhys Jones). Little of their customs, religion, social structure, economic organisation or even of their language was recorded. The recently published journals of G. A. Robinson covering the period 1829-1834 are an excellent source but this work is unfortunately exceptional.

Given similarities in habitat and economy, the Tasmanians can be seen as organised on similar lines to the eastern Australians, and many other cultural similarities probably existed also. The historical affinities with the early mainland population have already been mentioned.

The Future

Further excavations will extend knowledge of further areas and habitats once occupied by the Tasmanians; the remainder of the west coast and the south-west are two such regions. Work undertaken here will undoubtedly throw up new Tasmanian problems.

References

- (i) Jones, Rhys. 1966. *A Speculative Archaeological Sequence from North-West Tasmania. Records of Queen Victoria Museum, Launceston, No. 25 pp 2-12 (incl. bibliography);* (ii) Mulvaney, D. J. and Joyce, E. B. 1965. *Archaeological and Geomorphological Investigations on Mt Moffat Station, Queensland, Australia. Proc. Prehist. Soc. 31, pp 147-212;* (iii) Plomley, N. J. B. 1966. *Friendly Mission: the Tasmanian Journals of George Augustus Robertson, 1829-1834. Tasm. Hist. Research Assoc. Hobart, pp 1074.*

Chapter 3

GOVERNMENT AND ADMINISTRATION

GOVERNMENT IN TASMANIA

Historical Summary

In its short history, Tasmania has experienced diverse modes of government; beginning with autocratic rule, it graduated to responsible self-government as a British colony and finally surrendered some sovereign powers to take its place as an original State of the Australian Commonwealth.

The evolution of the system of bi-cameral responsible government within a Federal system falls into five distinct phases:

1803-1825: The island was part of the colony of New South Wales and its lieutenant governors and commandants were subordinate to the Governor in Sydney.

1825-1851: On 14 July 1825, Van Diemen's Land was created a separate colony with a Lieutenant Governor directly responsible to the Secretary of State in London. A nominated Legislative Council was established.

1851-1856: The passage of the *Australian Constitution Act* 1850 by the Parliament in London was followed by the establishment of a new Legislative Council in which sixteen members were elected and eight were nominees of the Lieutenant Governor; the newly constituted Council first sat on 1 January 1852.

1856-1901: By the *Constitution Act* 1854, two houses of parliament, the House of Assembly and the Legislative Council were established, both houses being elected. The first Parliament sat on 2 December 1856 (the first year in which the island was officially called Tasmania); representatives of the Crown carried the title of Governor.

1901: The Tasmanian Constitution was limited by the establishment of the Commonwealth Constitution. (The *Commonwealth of Australia Constitution Act* 1900 granted legislative and executive powers upon certain specified matters to the Commonwealth Parliament and Government, some of them exclusively, and provision was made that, in the case of inconsistency of valid laws, the Commonwealth law should prevail.) In effect, the Parliament of Tasmania may make laws operative within the State upon all matters not within the exclusive power of the Commonwealth Parliament but, upon some of these matters, the Tasmanian law may be superseded by the passing of a Commonwealth Act. The Commonwealth Government was established in 1901.

Introduction

Government in Tasmania is exercised at three levels:

1. The Commonwealth, with authority based on a written constitution, and centred in Canberra.
2. The State, with residual powers and centred in Hobart.
3. The Cities and Municipalities, with authority derived from a State Act, and operating in forty nine sub-divisions of the State.

This chapter deals primarily with the State Government and with Tasmanian representation in the Commonwealth Parliament. The administration of the cities and municipalities is described in Chapter 4, 'Local Government.'

Tasmanian Representation in Commonwealth Parliament

The Parliament of the Commonwealth of Australia consists of the Queen, a Senate and a House of Representatives. The Queen is represented in Australia by the Governor General.

The Senate

The founders of the Australian Constitution had in mind that the Senate should give expression to the interests of the States as partners in the federation; in other words, the Senate should be a States' house. Accordingly the proportional representation suggested by the varying populations of the States was disregarded, and it was provided that each State should be represented by six senators; the first Senate in the first Parliament comprised thirty-six members of whom six represented Tasmania. The numbers remained unchanged till the *Commonwealth Representation Act 1948* when each State became eligible to elect ten senators.

The founders also envisaged the Senate as a house of review and accordingly provided for continuity of membership by requiring only one-half of the Senate to retire every three years, and for each senator's term to be six years. If the normal pattern of three-yearly rotational retirement is broken by a double dissolution of both Houses, provision exists to elect a complete Senate with members divided into two equal classes: senators of the first class with a three-year term and senators of the second class with a six-year term. (The basis for this classification is the order in which the senators are declared elected.) After a normal rotational election, senators' terms commence from the following first day of July; in the case of an election for the whole Senate, terms commence from the first day of July preceding the election.

The House of Representatives

In designing the House of Representatives, the founders envisaged a legislative body representing the national interest and provided that the numbers of members chosen in the several States must be in proportion to population, but that no original State should have less than five members. The first House of Representatives in 1901 had 75 members of whom five were elected in Tasmania. The term of office was set as three years.

The *Representation Act 1948* increased the Senate to 60 members and increased the House of Representatives to 122, although only 121 were elected from the States, the Northern Territory having had a representative since 1922. At 1 January 1967, the House of Representatives stood at 124 members, 122 from the States and two representing the Northern Territory and the Australian Capital Territory respectively. Throughout the whole period since Federation, Tasmanian representation has remained constant at five members.

Representation of the other States is: N.S.W., 46; Victoria, 33; Queensland, 18; South Australia, 11; Western Australia, nine. These proportions of the total may be varied shortly to accord with the latest data on population distribution in the States. The member for N.T. and the member for A.C.T. now have full voting rights. (*See Appendix C at back.*)

Referendum of 1967

Section 24 of the Commonwealth constitution reads: 'The House of Representatives shall be composed of members directly chosen by the people of the Commonwealth, and the number of such members shall be, as nearly as

practicable, twice the number of senators.' In May 1967, a referendum was held, one issue being a proposal to terminate this requirement so that representation in the lower house could be increased without affecting the size of the Senate. This particular proposal was decisively rejected by the Australian voters; Tasmanian voters said 'No' (142,660) and 'Yes' (42,764). A further 3,821 voted informally.

Qualifications of Voters for Commonwealth Elections

An elector on a Federal roll is entitled and required by law to vote both in elections for the House of Representatives and for the Senate. An elector is any person, male or female, aged at least twenty-one years who is a British subject, who has lived in Australia for six months continuously and whose name appears on the roll. Residence in an electoral sub-division for at least one month is necessary to enable a qualified person to enrol. Enrolment is compulsory. All servicemen overseas irrespective of age can vote.

Qualifications of Candidates—Either Federal House

Qualifications necessary for membership of either House of the Commonwealth Parliament are possessed by any British subject, twenty-one years of age or over, who has resided in the Commonwealth for at least three years and who is, or who is qualified to become, an elector of the Commonwealth.

The term of office for a member of the House of Representatives is three years unless the House is dissolved earlier by the Governor General.

Disqualification as Elector or Member

Grounds for disqualification as an elector include being of unsound mind, or being convicted and under sentence for offences punishable by imprisonment for a year or longer. Grounds for disqualification as a member of either House include these prohibitions and also the following: membership of the other House, being an undischarged bankrupt or insolvent, holding office of profit under the Crown (with certain exceptions), or having pecuniary interest in any agreement with the public service of the Commonwealth except as a member of an incorporated company of more than 25 persons.

Senate (Tasmanian Members)

The following lists the senators for Tasmania and shows, in parenthesis, the years of retirement ('1974' senators were elected in November 1967):

Liberal senators: Lillico, A. E. D. (1971); Marriott, J. E. (1971); Rae, P. E. (1974); Wright, The Hon. R. C. (1974); *Labor* senators: Devitt, D. M. (1971); Lacey, R. H. (1971); O'Byrne, J. H. (1971); Poke, A. G. (1974); Wriedt, K. S. (1974); *Independent*: Turnbull, R. J. D. (1974).

House of Representatives (Tasmanian Members)

The following lists the Tasmanian members of the House of Representatives, and shows, in parenthesis, the division each represents:

Barnard, L. H. (Bass); Davies, R. (Braddon); Gibson, A. (Denison); Pearsall, T. G. (Franklin); Duthie, G. W. A. (Wilmot). The last election was held in November 1966, Denison and Franklin electing Liberal candidates, the other three seats being won by Labor candidates.

Elections for the Senate

In Senate elections, there are only six electorates, each State being an electorate. Electors are required to cast a vote for every candidate standing within the State in order of their preference, and election of members is carried out in accordance with the principles of proportional representation by the

single transferable vote (see 'Elections for House of Assembly' for a description of similar electoral principles). If a vacancy occurs in the Senate, the appropriate State Government nominates a replacement who sits until the next Commonwealth general election (either for the House of Representatives or for the Senate), when an election is held to fill the vacancy. It is usual for appointed replacements to be of the same party as those they replace, although no law exists to require it.

If a senator fills a vacancy through an election held at the same time as an election for the House of Representatives, his term will be the same as if the vacating member's term were to run its full course. If the vacant seat is contested at an ordinary Senate election, then six, instead of five candidates, will be elected in the State affected and the senator last elected will fill the vacancy for a term shorter than the full six years.

Elections for the House of Representatives

The Commonwealth is divided into 124 single-member electorates and electors are required to cast a vote for every candidate standing within the electorate in order of their preference. Election of members is carried out in accordance with the principles of the absolute majority through use of the alternative vote (see 'Elections for Legislative Council' for a description of similar electoral principles). If a vacancy occurs in the House of Representatives, it is filled by holding a by-election in the electorate concerned. The five Tasmanian electoral divisions are: Denison, Franklin, Wilmot, Bass and Braddon (also used in elections for the State House of Assembly).

Division of Powers

Under the *Commonwealth of Australia Act 1900*, the State of Tasmania surrendered part of its sovereignty and it was possible, at that point in time, to classify the totality of powers to be vested in the Commonwealth and the State as follows:

1. Exclusive powers to be exercised by the Commonwealth alone.
2. Concurrent powers to be exercised both by the Commonwealth and the State (subject to the supremacy of Commonwealth law in cases of inconsistency of laws).
3. Residual powers to be exercised by the State.

Since the establishment of the Commonwealth of Australia, there have been considerable changes in functions actually performed by the two Governments due to constitutional amendments and to inter-governmental agreements affecting function. It will suffice, therefore, to list the main fields of activity of the Commonwealth Government today:

External affairs and diplomatic representation; maintenance of the armed forces; customs and excise; posts and telegraphs; control of broadcasting and television; control of civil aviation; repatriation of ex-servicemen; immigration; industrial arbitration for national industries; control of coinage and currency; overseas trade promotion; employment service; age, invalid and widows' pensions; national health benefits; federal territories and overseas dependencies; census and statistics; meteorological service; Commonwealth courts and police; control of banking; collection of sales and income taxes; housing assistance and war service homes; scientific and industrial research; management of State and National debt; lighthouses and navigation. (For a fuller treatment of this subject, the *Constitution* in the *Commonwealth Year Book* is recommended.)

The departments, authorities, etc. of the Tasmanian Government are listed in a later section of this chapter headed 'Administration'.

Governor*Introduction*

Democratic forms of government exhibit great variety but, with regard to the selection and role of the head of State, two clearly conflicting concepts can be discerned. In the American tradition, the head of State is elected and must necessarily play an active role in party politics. In the British tradition, the head of State is the holder of hereditary office and is expected to be above and beyond party politics. Tasmania follows the British tradition and accepts as its Queen, Elizabeth the Second. Her Majesty appoints the Governor who acts as head of State, generally for a five-year term. The relationship existing between the Queen and the British Parliament is broadly the same as that existing between the Governor and the Tasmanian Parliament.

Authority

The Governor's authority is derived from Letters Patent (issued in 1900) under the Great Seal of the United Kingdom, from the Commissions of Appointment and from the Governor's Instructions issued under the Royal Sign Manual and Signet.

Powers and Duties

The Governor summons and prorogues Parliament; in special circumstances he may dissolve it after considering the advice of his Premier. Bills which have passed all stages in Parliament are submitted to the Governor for his assent although there are some subjects which are specifically reserved for the Royal Assent (e.g. a Bill granting land or money to the Governor). He opens each session of Parliament by outlining the legislative programme of the Government which, irrespective of its party affiliation, he refers to as 'My Government', but takes no other part in the sittings of either House.

His executive powers include the appointment of Ministers of the Crown, judges and other important State officers but not those whose appointments may be made by certain statutory corporations. By appointing Ministers of the Crown, the Governor creates the Executive Council of the day and he is required by his instructions to be guided by the advice of this body. Should he feel it necessary to act against the advice of the Executive Council, he may do so but the reasons for such action must be immediately reported to the Queen. The Governor's relations with the Executive Council and with Cabinet are more fully discussed in the section headed 'The Cabinet and Executive Government'.

The Governor has the power to pardon, reprieve and remit sentences and fines. In capital cases, he is required to seek the advice of the Executive Council and, in other cases, the advice of at least one Minister. He also has the power to appoint a deputy to act in his stead during his temporary absence from the seat of government, whether within or outside the State. (In Tasmania, it is usual for the Chief Justice to act as Administrator of the Government in the absence of the Governor.) Further reference to the Governor's discretionary powers will be found under the section headed 'Dissolution of Parliament'. On all official State occasions, he performs the ceremonial functions as the representative of the Crown, and so becomes the focal point and the unifying symbol of the community.

Present Governor

All Tasmanian Governors since the first settlement have come from the United Kingdom, although Australians, in some other States and the Commonwealth, either hold or have held the vice-regal office. In 1968, the term of office

of Lt-General Sir Charles Henry Gairdner ended and his place is to be taken by Lt-General Sir Edric Bastyan, a former Governor of South Australia. A list of previous Governors follows shortly.

The Administrator

In the Letters Patent of 1900 (as amended in 1934), provision was made for a Lieutenant Governor to administer the Government in the event of the Governor's death, incapacity, removal or departure from the State. Should there be no Lieutenant Governor then appointed or should he be unable to act, the duties of the Governor were to be discharged by the Administrator. Attached to the Letters Patent was a Dormant Commission authorising the Chief Justice to act as Administrator 'in the event of the death, incapacity or absence of the Governor and the Lieutenant Governor if any'.

Lieutenant Governors have often acted in lieu of the Governor but since 1943, it has been customary for the Chief Justice to act as Administrator in accordance with the provisions of the Dormant Commission which further nominates the next Senior Judge to act in the absence of the Chief Justice. (The last Lieutenant Governor appointed was Sir John Evans, 1937-1943.)

The present Chief Justice is Sir Stanley Burbury, K.B.E., who has already acted as Administrator in the intervals between governorships, and on other occasions.

Succession of Governors

The next table shows the succession of governors from the time of Lieutenant Bowen's settlement in 1803. For the first 40 years, all appointed were officers of the navy, marines or army, Sir Eardley Wilmot being the first civilian (in 1843). The title 'governor' was first used by Sir H. E. Fox Young, under whose administration the colony graduated to self-government.

Succession of Governors, Acting Governors, and Their Predecessors from 1803

| Name | Designation | Period |
|------------------------------------|---------------------|---------------------|
| (i) 1803-1825 | | |
| Lieut John Bowen .. . | Commandant | 11. 9.03 - 16. 2.04 |
| Colonel David Collins, R.M. .. . | Lieutenant Governor | 16. 2.04 - 24. 3.10 |
| Lieut Edward Lord, R.M. .. . | Commandant | 24. 3.10 - 8. 7.10 |
| Captain J. Murray, 73rd Regt .. . | Commandant | 8. 7.10 - 20. 2.12 |
| Major A. Geils, 73rd Regt (a) .. . | Commandant | 20. 2.12 - 4. 2.13 |
| Colonel Thomas Davey, R.M. .. . | Lieutenant Governor | 4. 2.13 - 9. 4.17 |
| Colonel William Sorell .. . | Lieutenant Governor | 9. 4.17 - 14. 5.24 |
| Colonel George Arthur (b) .. . | Lieutenant Governor | 14. 5.24 - 3.12.25 |

(ii) 1825-1855

| | | |
|---------------------------------|---------------------|---------------------|
| Colonel George Arthur (b) .. . | Lieutenant Governor | 6.12.25 - 29.10.36 |
| Lieut K. Snodgrass .. . | Administrator | 1.11.36 - 5. 1.37 |
| Sir J. Franklin, KCH, R.N. .. . | Lieutenant Governor | 6. 1.37 - 21. 8.43 |
| Sir J. E. E. Wilmot, Bart .. . | Lieutenant Governor | 21. 8.43 - 13.10.46 |
| C. J. La Trobe, Esq. .. . | Administrator | 13.10.46 - 25. 1.47 |
| Sir W. T. Denison .. . | Lieutenant Governor | 26. 1.47 - 8. 1.55 |

Succession of Governors, Acting Governors and Their Predecessors—*continued*

| Name | Designation | Period |
|--|---------------------|---------------------|
| (iii) 1855-1900 | | |
| Sir H. E. Fox Young .. . | Governor | 8. 1.55 - 10.12.61 |
| Colonel Thomas Gore Browne, CB .. . | Governor | 11.12.61 - 30.12.68 |
| Lt-Col W. C. Trevor, CB .. . | Administrator | 30.12.68 - 15. 1.69 |
| Charles Du Cane, Esq. .. . | Governor | 15. 1.69 - 28.11.74 |
| Hon. Sir Francis Smith, CJ .. . | Administrator | 30.11.74 - 13. 1.75 |
| F. A. Weld, Esq. .. . | Governor | 13. 1.75 - 5. 4.80 |
| Hon. Sir Francis Smith, CJ .. . | Administrator | 6. 4.80 - 21.10.80 |
| Lt-General Sir J. H. Lefroy, KCMG, CB .. . | Administrator | 21.10.80 - 7.12.81 |
| Sir G. C. Strahan, RA, KCMG .. . | Governor | 7.12.81 - 28.10.86 |
| Hon. W. R. Giblin, Esq. SJ .. . | Administrator | 29.10.86 - 18.11.86 |
| Hon. Sir W. L. Dobson, CJ .. . | Administrator | 18.11.86 - 11. 3.87 |
| Sir R. G. C. Hamilton, KCB .. . | Governor | 11. 3.87 - 30.11.92 |
| Sir W. L. Dobson .. . | Administrator | 1.12.92 - 8. 8.93 |
| Rt Hon. J. W. Joseph, Viscount Gor- manston, KCMG .. . | Governor | 8. 8.93 - 14. 8.00 |
| (iv) 1900- | | |
| Sir John Dodds, KCMG .. . | Administrator | 14. 8.00 - 8.11.01 |
| Sir A. E. Havelock, GCSI, GCME, GCIE .. . | Governor | 8.11.01 - 16. 4.04 |
| Sir John Dodds, KCMG .. . | Lieutenant Governor | 16. 4.04 - 28.10.04 |
| Sir G. Strickland, KCMG .. . | Governor | 28.10.04 - 20. 5.09 |
| Sir John Dodds, KCMG .. . | Lieutenant Governor | 21. 5.09 - 29. 9.09 |
| Sir Harry Barron, KCMG, CVO .. . | Governor | 29. 9.09 - 8. 3.13 |
| Sir John Dodds, KCMG .. . | Lieutenant Governor | 10. 3.13 - 4. 6.13 |
| Sir William Ellison-Macartney, KCMG .. . | Governor | 4. 6.13 - 31. 3.17 |
| Sir Herbert Nicholls .. . | Administrator | 1. 4.17 - 6. 7.17 |
| Sir F. A. Newdigate Newdegate, KCMG .. . | Governor | 6. 7.17 - 9. 2.20 |
| Sir Herbert Nicholls .. . | Administrator | 9. 2.20 - 16. 4.20 |
| Sir W. L. Allardyce, KCMG .. . | Governor | 16. 4.20 - 26. 1.22 |
| Sir Herbert Nicholls .. . | Administrator | 26. 1.22 - 30.11.23 |
| Hon. N. K. Ewing, Esq. .. . | Administrator | 30.11.23 - 13. 6.24 |
| Sir Herbert Nicholls .. . | Administrator | 13. 6.24 - 23.12.24 |
| Sir James O'Grady, KCMG .. . | Governor | 23.12.24 - 23.12.30 |
| Sir Herbert Nicholls, KCMG .. . | Lieutenant Governor | 23.12.30 - 4. 8.33 |
| Sir Ernest Clark, GCMG, KCB, CBE .. . | Governor | 4. 8.33 - 4. 8.45 |
| Sir John Morris .. . | Administrator | 4. 8.45 - 24.12.45 |
| Admiral Sir Hugh Binney, KCB, KCMG, DSO .. . | Governor | 24.12.45 - 8. 5.51 |
| Sir John Morris, KCMG .. . | Administrator | 9. 5.51 - 22. 8.51 |
| Rt Hon. Sir Ronald Cross, Bart KCMG, KCVO .. . | Governor | 23. 8.51 - 4. 6.58 |
| Hon. Sir Stanley Burbury, KBE .. . | Administrator | 5. 6.58 - 21.10.59 |
| Rt Hon. the Lord Rowallan, KBE, MC | Governor | 21.10.59 - 25. 3.63 |
| Hon. Sir Stanley Burbury, KBE .. . | Administrator | 25. 3.63 - 24. 9.63 |
| Lt-General Sir Charles Gairdner, KCMG, KCVO, KBE, CB .. . | Governor | 24. 9.63 - 11. 7.68 |
| Hon. Sir Stanley Burbury, KBE .. . | Administrator | 12. 7.68 - |
| Lt-General Sir Edric Bastyan, KCMG, KCVO, KBE, CB .. . | Governor Designate | |

(a) Originally the Launceston settlement had its own officials appointed from N.S.W. Lieutenant Governor W. Paterson was followed, as Commandants, by Captain J. Brabyn and Major G. A. Gordon. The next, Captain J. Ritchie, took office on 1 July 1812 subordinate to Major A. Geils.

(b) On 3 December 1825, Lt-General Sir Ralph Darling displayed in Hobart two commissions, one as Governor of N.S.W. and one as Governor of Van Diemen's Land. This was the device for separating Van Diemen's Land from N.S.W. Colonel George Arthur was sworn in again as Lieutenant Governor on 6 December 1825.

The Cabinet and Executive Government

General

In Tasmania, as in the other States and the Commonwealth, executive government is based on the system which was evolved in Britain in the 18th century, and which is generally known as 'Cabinet' or 'responsible' government. Its essence is that the head of the State (in Tasmania, the Governor representing Her Majesty the Queen) should perform governmental acts on the advice of his Ministers; that he should choose his principal Ministers of State from members of Parliament belonging to the party, or coalition of parties, commanding a majority in the popular House; that the Ministry so chosen should be collectively responsible to that House for the government of the country; and that the Ministry should resign if it ceases to command a majority there.

The Cabinet system operates chiefly by means of constitutional conventions, customs or understandings, and through institutions that do not form part of the legal structure of the government at all. In law, still, the executive power of the State is exercised by the Governor who is advised by the Executive Council which he himself has appointed and which meets for formal purposes, to be later explained. The whole policy of a Ministry is, in practice, determined by the Ministers of the Crown, meeting without the Governor under the chairmanship of the Premier, and this body is known as the Cabinet.

The Cabinet

This body does not form part of the legal mechanism of government and its meetings are private and deliberative. The actual Ministers of the day alone are present, no records of the meetings are made public, and the decisions taken have, in themselves, no legal effect. As Ministers are the leaders of the party commanding a majority in the House of Assembly, the Cabinet substantially controls not only the general legislative programme of Parliament, but the whole course of Parliamentary proceedings. In effect, though not in form, the Cabinet, by reason of the fact that all Ministers are members of the Executive Council, is also the dominant element in the executive government of the State. Even in summoning, proroguing or dissolving Parliament, the Governor is usually guided by the advice tendered him by the Cabinet, through the Premier, though legally the discretion is vested in the Governor.

In Tasmania, the present Cabinet consists of the nine Ministers of the Crown, including the Premier.

The Executive Council

This body is usually presided over by the Governor, the members thereof holding office during his pleasure. All Ministers of the Crown must be members of the Executive Council. Ministers actually remain members of the Executive Council on leaving office, but are not summoned to its meetings, for it is an essential feature of the Cabinet system that attendance should be limited to the Ministers of the day. The Chief Justice and Judges of the Supreme Court are also members of the Executive Council, but they too are not summoned to its meetings for the same reason. The meetings of the Executive Council are formal and official in character, and a record of proceedings is kept by the Clerk (who is the permanent head of the Premier's and Chief Secretary's Department). At Executive Council meetings, the decisions of Cabinet are (where necessary) given legal form, appointments made, resignations accepted, proclamations issued, and regulations and the like approved. The quorum required is three, comprising the Governor and at least two Ministers.

The Appointment of Ministers

Legally, Ministers hold office during the pleasure of the Governor. In practice, however, the discretion of the head of State in the choice of Ministers is limited by the conventions on which the Cabinet system rests. When a Ministry resigns, the Governor's custom is to send for the leader of the party which commands a majority in the lower House, and to commission him, as Premier, to 'form a Ministry'—that is, to nominate other persons to be appointed as Ministers of the Crown and to serve as his colleagues in the Cabinet.

The *Constitution Act 1854* defined the Parliament of Tasmania as 'the Governor and the Legislative Council and House of Assembly together'. Although no legal requirements enforce it, the selection of all Ministers of the Crown from Parliament stems from the British tradition and sharply contrasts with the American system which requires its Ministers *not* to be members of Congress.

The Governor's power to revoke the appointment of a Minister of the Crown was exercised in 1959, the circumstances being that a Minister had refused to resign from Cabinet; in the absence of the Governor, and on the advice of the Premier, the Administrator terminated the Minister's appointment.

Choice of a Leader (Australian-American Comparison)*Premiers and Presidents*

The outcome of an Australian election, Commonwealth or State, is generally to give one party a majority of seats in the lower house; or to give two parties, in coalition, a majority. A party, or a coalition, in this position is given the right to form the government, i.e. to provide from its parliamentary members the Prime Minister (or in the States, the Premier) and the Cabinet. The office of Prime Minister (or Premier) will be taken by the parliamentary leader of the majority party; the leader is elected by ballot, the voters being parliamentary members of the party. Similar ballot machinery can be used to replace a Prime Minister (or Premier) within the life of the parliament, should the office-holder die, resign or lose the support of the parliamentary members of his party. Thus, Australians elect the parliament, but the parliamentary members of the majority party choose the Prime Minister (or Premier) from within their own ranks.

In the American system, the President is not a member of Congress and Congress does not usually ballot to elect him. A successful candidate for the presidency needs to go through two selections: (i) to obtain nomination by his party at a convention held before the presidential election; (ii) stand as a nominated candidate in a nation-wide election.

The party convention which nominates a presidential candidate obtains its delegates in two ways: (i) the party organisation in some States selects delegates; (ii) in the other States, an election of delegates is held, the State electoral machinery being made available to allow the ordinary citizen to vote. The elections of delegates in this latter way are called 'primaries' which may be 'open' or 'closed' according to the rules of the particular State (if 'open', a Democratic supporter can cross over and vote in the Republican primary, or vice versa). Delegates elected in the primaries are, in general, identified with support for some particular presidential candidate, but the degree to which they feel themselves bound at the actual convention varies from State to State. The number of States using the primaries has fluctuated since 1912 when the system was introduced but it stood at 15 in 1968. The primaries were intended

to democratise the selection of delegates for party conventions, and to give the ordinary citizen a chance of influencing the party's choice of a candidate.

Removal from Office

If an Australian Prime Minister (or Premier) loses the support of the parliamentary members of his party, a ballot among these members is sufficient to elect a successor. In America, the President is not a member of Congress and there is no machinery whereby his own party can depose him during his four years of office; Congress itself can do so by bringing in a bill of impeachment (this has not been attempted since just after the Civil War when the bill failed narrowly to obtain the necessary $\frac{2}{3}$ majority in the Senate).

Leader of the Opposition

In Australia, the parliamentary members of the principal party not participating in the government choose a leader by ballot, and he is known as the Leader of the Opposition. If his party at a later election gains a majority of seats, he is the logical choice for the office of Prime Minister (or Premier). Thus, at any time, the two obvious rivals for the chief ministerial office at a future election are easily identified as the Prime Minister (or Premier) and the Leader of the Opposition (subject to the qualification that either leader can be replaced at any time by a ballot called for by their parliamentary supporters). In the American scene, the two effective rivals for the presidency cannot be identified with any certainty until the party conventions have made their nominations. A President in his first term of elected office can seek party nomination a second time, but not a third. Also, there is no position corresponding to Leader of the Opposition and a party convention may even give its nomination to a candidate who has played no active role in politics (e.g. General Eisenhower).

In the Australian situation, major criticism of the government of the day usually comes from the Leader of the Opposition; in the U.S.A., a number of important political figures may emerge as vocal critics of the administration, and some may be members of the President's own party (e.g. Senators Kennedy and McCarthy in 1968).

Choosing the Cabinet

In America, the President chooses his own Cabinet, virtually all citizens being eligible for selection; if a member of Congress happens to be chosen, he gives up his seat in the legislature. In Australia, the two major parties differ in their method of forming a Cabinet which must be recruited from members of parliament. In general, the Liberal Party members, having elected a leader, leave the selection to him. The Labor Party members, however, hold a ballot for the number of Cabinet positions to be filled and the discretion of their leader is limited to deciding which post each of his ministers will occupy.

Prime Ministers (and Premiers) in Lower House

Section 64 of the Commonwealth Constitution provides: '... no Minister of State shall hold office for a longer period than three months unless he is or becomes a senator or a member of the House of Representatives'. Early in 1968, Senator Gorton was elected leader of the parliamentary Liberal Party, became Prime Minister and then resigned his seat in the Senate. For a limited period, then, the Prime Minister was not a member of parliament. He was shortly afterwards elected to the House of Representatives in a by-election and complied with the requirements of Section 64. Constitutionally a Prime Minister is free to remain in the Senate but, for practical reasons, the office is better exercised in the lower house. Premiers in the States also hold their seats in the lower house.

Present Ministry

After the elections held on 2 May 1964, the Labor Ministry led by the Hon. E. E. Reece, was announced as follows:

Ministry (at May 1964)

| Name | House | Responsibility (a) |
|------------------------------|---------------------|---------------------------------------|
| The Hon. E. E. Reece .. | Assembly | Premier, Treasurer and Mines |
| The Hon. R. F. Fagan .. | Assembly | Attorney General and Deputy Premier |
| The Hon. W. A. Neilson .. | Assembly | Education |
| The Hon. D. A. Cashion .. | Assembly | Lands and Works |
| The Hon. A. C. Atkins .. | Assembly | Agriculture, Tourists and Immigration |
| The Hon. B. K. Miller .. | Legislative Council | Chief Secretary |
| The Hon. S. V. Ward .. | Assembly | Housing and Forests |
| The Hon. H. J. McLoughlin .. | Assembly | Transport and Police |
| The Hon. M. G. Everett, Q.C. | Assembly | Health |

(a) See section 'Administration' later in chapter for fuller statement of responsibility.

Relations of Two Houses

Status of Legislative Council

A vexed question for many years was the exact status of the Legislative Council in relation to the House of Assembly from which the Ministry of the day was predominantly chosen. The 1854 Constitution Act had defined Parliament as 'the Governor and the Legislative Council and House of Assembly together' and obviously the approval of all three was necessary for laws to become valid; on the other hand, there was no adequate provision for resolving situations in which the Legislative Council rejected bills or amended bills in ways unacceptable to the House of Assembly. The lower house was elected on a wider franchise, and could legitimately claim to be the more accurate instrument of public opinion to the extent that it was not a perpetual body like the Legislative Council, as its members were all elected at the one time. The power of the Legislative Council to reject and amend was most resented in relation to money bills, since these vitally affected the administration of public affairs by the Ministry of the day.

The Conflict of 1924 and 1925

The 1924-25 Appropriation Bill was amended by the Legislative Council, involving a reduction of \$37,000. The Premier (J. A. Lyons) decided to challenge the right of the upper house to amend money bills; after a two-house conference had failed to reach agreement, the House of Assembly voted 17 to 10, directing the Speaker to seek Royal Assent for the bill 'in the form it passed the House of Assembly'.

The Administrator (Sir Herbert Nicholls) had already been warned of the constitutional crisis and had cabled the Secretary of State in London before the bill was presented for his assent. The advice from London was that he should consult the Crown's law officers as to validity; if he then gave consent, 'responsibility will rest exclusively with your Ministers and no question can arise as to the constitutionality of your action'. The Administrator gave assent to the bill and it went on the statute book with the usual preamble: 'with the advice and consent of the Legislative Council'. A truer description would have been 'against the advice and without the consent of the Legislative Council'.

By 1925, a new Governor (Sir James O'Grady) had taken up office but he followed the precedent set by the Administrator, giving assent to 'one-house' bills (i.e. those in which Legislative Council amendments had not been accepted by the lower house). Both houses were concerned with the possible illegality of these developments and set up a Joint Committee to propose constitutional changes; the outcome is described in the next section.

Money Bills

A period of conflict was followed by the passage of the *Constitutional Amendment Act* 1926 defining the relations of the two houses in the passing of money bills. The following current principles are found in the Act: the Legislative Council retains the right to reject any bill, including a money bill; the Council is specifically prevented from amending bills to raise revenue for the ordinary annual services of the Government and bills imposing land and income tax; it can still suggest to the House of Assembly that amendments be made but the adoption or rejection of such amendments is at the discretion of the Assembly; the operation of such bills is restricted to a period of one year. Apart from the above specific exceptions, the Council retains the right to amend money bills, e.g. those dealing with loan funds or probate. The House of Assembly is given the sole right to initiate bills for the raising of revenue and the imposition of taxes. Finally, the powers of the two houses are declared equal in all matters except for these specific exceptions.

Deadlocks and Dissolutions

It should be observed that there is no provision for a double dissolution as in the Commonwealth Constitution and that the Legislative Council, by rejection of a supply bill, can force the House of Assembly to seek a dissolution without itself needing to face the electorate. This last occurred in 1948.

The Legislative Council has the tradition of being a non-party house and, in actual fact, the majority of its members are elected as independents without the official endorsement of any party. Members who have received party endorsement (from the Labor Party) are heavily outnumbered, and the leader of the Government in the Legislative Council cannot rely upon a vote taken on party lines to ensure the passage of any government bill. It is the ability to command a majority in the House of Assembly which gives a party the right to form the government of the day and which ensures the passage of government legislation through the lower house; no such certainty exists in the passage of bills through the upper house and accordingly the Legislative Council is in a position to exercise considerable influence on the form in which bills are finally passed through both houses.

As from July 1964, the Liberal Party reversed its policy of non-endorsement of candidates for the Legislative Council and decided to endorse candidates in certain circumstances. It gave endorsement to only one candidate in the period 1964-1968, but an independent won the seat.

Consultation Machinery

When a position is reached in which one house refuses to accept the amendments or legislation of the other, provision exists under the Standing Orders for joint consultation by the calling of a 'Free Conference' at which each house is represented by 'managers'. (It is usual for each house to be represented by four managers.) The free conference endeavours to find a compromise acceptable to both houses.

Another form of consultation between the two houses is the appointment of a joint select committee which is set terms of reference and which is primarily concerned with fact-finding. The passage of a bill may be temporarily delayed

while a joint select committee makes a specific investigation; this machinery provides members with the information necessary to cast an informed vote. The next section describes an episode in 1967 when the consultation machinery was unable to prevent a deadlock.

Deadlock over Trading Hours, 1967

The regulation of shop trading hours in Tasmania was last provided for in the *Factories, Shops and Offices Act 1965* but its continuance beyond 31 December 1967 required the consent of Parliament. One section of the legislation prohibited general Saturday morning trading within a six miles radius of the Hobart G.P.O.

Late in 1967, legislation necessary to continue the regulation of trading hours was passed by the House of Assembly; the Legislative Council, however, insisted on an amendment to allow Saturday morning trading in the eastern suburbs and at Taroona (both within the six mile zone). The usual consultation machinery was employed, the final position of the two houses being: (i) *House of Assembly*; not willing to accept any amendment affecting the six mile zone; (ii) *Legislative Council*; not willing to pass the legislation without acceptance of its amendment. Neither house was willing to yield so regulation of shop trading hours throughout the State ceased as from 1 January 1968 and any shop might observe any hours its owner pleased. The decision not to accept the Legislative Council's amendment was supported by both major parties in the House of Assembly. (The two houses did agree, however, to continue regulation of trading hours and rostering in the case of petrol filling stations; legislation for this purpose was enacted.)

Premiers

The following is a list of the Premiers of Tasmania from 1856 (the year in which the first elected Parliament sat):

Premiers from 1856

| Name of Premier | Date of Assumption of Office | Date of Retirement from Office | Duration of Office (Months) |
|-----------------------------|------------------------------|--------------------------------|-----------------------------|
| 1856-1900 | | | |
| W. T. N. Champ | 1.11.56 | 26. 2.57 | 4 |
| T. G. Gregson | 26. 2.57 | 25. 4.57 | 2 |
| W. P. Weston | 25. 4.57 | 12. 5.57 | 1 |
| F. Smith | 12. 5.57 | 1.11.60 | 42 |
| W. P. Weston | 1.11.60 | 2. 8.61 | 9 |
| T. D. Chapman | 2. 8.61 | 20. 1.63 | 18 |
| J. Whyte | 20. 1.63 | 24.11.66 | 46 |
| Sir Richard Dry | 24.11.66 | 4. 8.69 | 32 |
| J. M. Wilson | 4. 8.69 | 4.11.72 | 39 |
| F. M. Innes | 4.11.72 | 4. 8.73 | 9 |
| A. Kennerley | 4. 8.73 | 20. 7.76 | 36 |
| T. Reibey | 20. 7.76 | 9. 8.77 | 13 |
| P. O. Fysh | 9. 8.77 | 5. 3.78 | 7 |
| W. R. Giblin | 5. 3.78 | 20.12.78 | 9 |
| W. L. Crowther | 20.12.78 | 30.10.79 | 10 |
| W. R. Giblin | 30.10.79 | 15. 8.84 | 58 |
| Adve Douglas | 15. 8.84 | 8. 3.86 | 19 |
| J. W. Agnew | 8. 3.86 | 29. 3.87 | 13 |
| P. O. Fysh | 29. 3.87 | 17. 8.92 | 65 |
| H. Dobson | 17. 8.92 | 14. 4.94 | 20 |
| Sir Edward Braddon | 14. 4.94 | 12.10.99 | 66 |

Premiers from 1856—continued

| Name of Premier | Date of Assumption of Office | Date of Retirement from Office | Duration of Office (Months) |
|----------------------------|------------------------------|--------------------------------|-----------------------------|
| 1900- | | | |
| Sir N. E. Lewis | 12.10.99 | 9. 4.03 | 42 |
| W. B. Propsting | 9. 4.03 | 11. 7.04 | 15 |
| J. W. Evans | 11. 7.04 | 19. 6.09 | 59 |
| Sir N. E. Lewis | 19. 6.09 | 20.10.09 | 4 |
| J. Earle (a) | 20.10.09 | 27.10.09 | — |
| Sir N. E. Lewis | 27.10.09 | 14. 6.12 | 32 |
| A. E. Solomon | 14. 6.12 | 6. 4.14 | 22 |
| J. Earle (a) | 6. 4.14 | 15. 4.16 | 24 |
| Sir Walter Lee | 15. 4.16 | 12. 8.22 | 76 |
| J. B. Hayes | 12. 8.22 | 14. 8.23 | 12 |
| Sir Walter Lee | 14. 8.23 | 25.10.23 | 2 |
| J. A. Lyons (a) | 25.10.23 | 15. 6.28 | 56 |
| J. C. McPhee | 15. 6.28 | 15. 3.34 | 69 |
| Sir Walter Lee | 15. 3.34 | 22 .6.34 | 3 |
| A. G. Ogilvie (a) | 22. 6.34 | 10. 6.39 | 60 |
| E. Dwyer Gray | 11. 6.39 | 18.12.39 | 6 |
| R. Cosgrove | 18.12.39 | 18.12.47 | 96 |
| E. Brooker | 18.12.47 | 25. 2.48 | 2 |
| R. Cosgrove | 25. 2.48 | 26. 8.58 | 126 |
| E. E. Reece | 26. 8.58 | Still in office | |

(a) Tasmania has had an unbroken succession of Labor Premiers, starting with the Ogilvie Ministry (1934); earlier Labor Ministries were led by J. Earle (first in 1909) and by J. A. Lyons. The opposition party from 1948 has been the Liberal Party (earlier the Nationalist Party).

Parties

In the period 1909-1968, the major parties have been the Labor Party and the Nationalist Party (which in 1948 became the Liberal Party). In the early 1920s, a Country Party appeared with five members in the House of Assembly but it soon went out of existence. At the 1964 Assembly elections, a number of Country Party candidates stood but none were successful.

Dissolution of Parliament

The Governor may dissolve the House of Assembly whenever he considers it desirable but he has no power to dissolve the Legislative Council. In effect then, the Legislative Council is a perpetual body except that approximately one-sixth of its seats fall vacant annually. (See 'Elections for Legislative Council'.)

In practice, the Governor considers dissolving the House of Assembly only when requested to do so by his Ministers. Two recent dissolutions are recorded below:

1950: The Governor, Admiral Sir Hugh Binney, received a request for dissolution from the Premier, the main grounds being the difficulty of passing legislation in a House where the Government was dependent on the support of an independent member for its majority. Having first interviewed the Leader of the Opposition and ascertained that no alternative Government could be formed, the Governor granted the dissolution.



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Temperate Rain Forest. Trees of *Nothofagus cunninghamii* with ground cover of *Polystichum proliferum*; near Waratah

(T. S. McMahon)



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(A. M. Hewer)

Richea pandanifolia, with *Nothofagus cunninghamii* (background) and *Athrotaxis cupressoides* (right foreground),
Mt Field National Park

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(W. M. Curtis)

Horizontal, *Anodopetalum biglandulosum*, as understorey in mixed forest of *Nothofagus cunninghamii* and
Eucalyptus johnstonii; Mt Field National Park at altitude c. 2,000 ft





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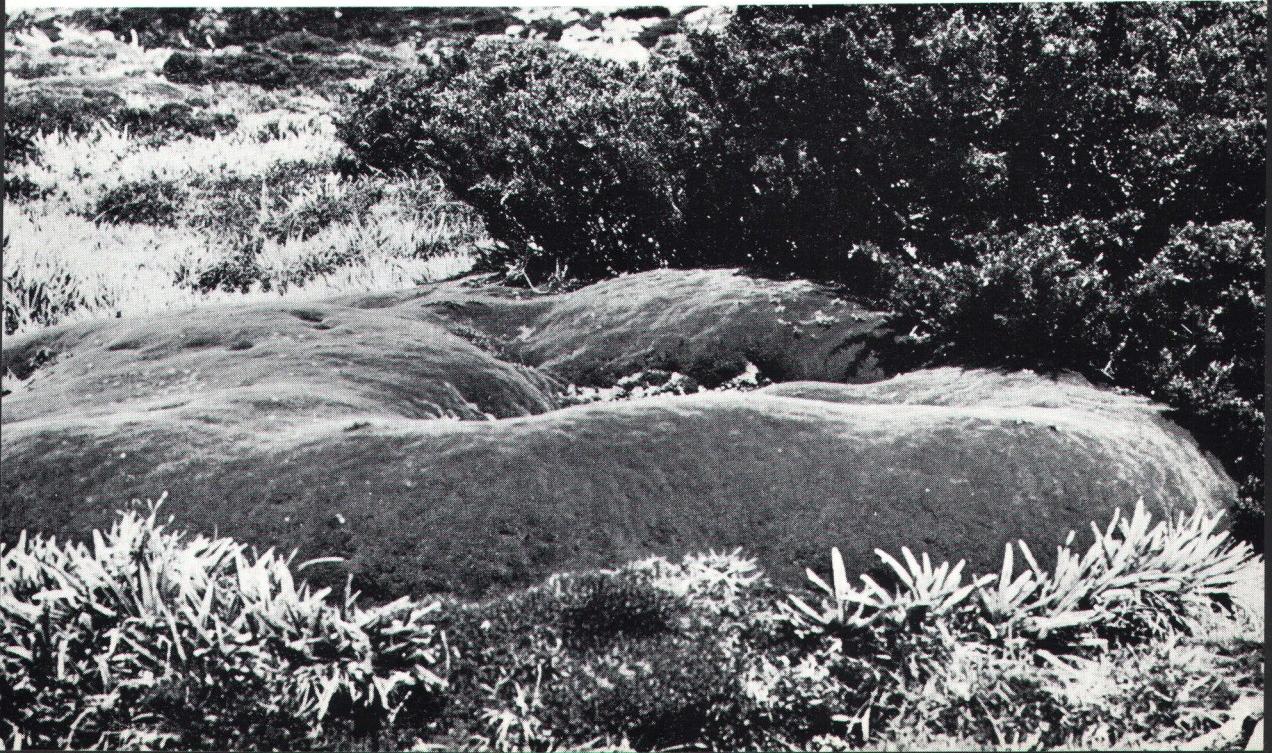
Button-grass, *Gymnoschoenus sphaerocephalus*; Dove Lake, Cradle Mountain National Park

(J. B. Thwaites)

Old cushion of *Abrotanella forsterioides*, mats of *Astelia alpina* and shrub of *Microstrobos niphophilus*; slopes of Mt Mawson at altitude c. 4,500 ft, Mt Field National Park

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(W. M. Curtis)





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Tasmanian Tiger (*Thylacinus cynocephalus*) and Cradle Mountain

(Copyright H. J. King)



(The Mercury)

Little Tasmanian Pygmy Possum
(*Cercartetus lepida*) and human thumb

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1956: The Governor, Sir Ronald Cross, received a request for dissolution from the Premier, the grounds being that a Minister of the Crown had resigned and joined the opposition, thus depriving the Government of its majority on the floor of the House. In this case, the Governor could have requested the Leader of the Opposition to form a Government since the opposition now had the majority. However, the Government had not been defeated on the floor of the House, since Parliament had adjourned after the Minister announced his change of allegiance. In granting a dissolution, the Governor thought it 'proper in all the circumstances that the electorate should have an opportunity of expressing its will' and maintained that this decision was a legitimate exercise of his discretionary powers.

Sessions of Parliament

Parliament is required to sit every year and, having risen, must sit again before twelve months have elapsed. When the House of Assembly is dissolved and a general election held, the Governor is required to call Parliament together within ninety days of the dissolution, subject to a discretionary extension of a further thirty days.

Elections for the House of Assembly

Elections for the House of Assembly are conducted under a system which can be classified as proportional representation by the single transferable vote and which is popularly but incorrectly called 'Hare-Clark'.

Hare's Proposals

The principle of proportional representation by the single transferable vote was first suggested by Thomas Wright Hill in 1821 and later elaborated by Thomas Hare in his treatise of 1859, *The Election of Representatives, Parliamentary and Municipal*. Hare was primarily concerned with elections to the House of Commons and the essence of his proposal was that each voter was to be allowed to support any candidates, anywhere in Britain, and that his votes could be transferred to other candidates in the order of his preference. A candidate was to be declared elected on attaining the quota found by dividing the total votes in the country by the number of seats in the House of Commons; the votes cast for a candidate in his own locality were to be counted for him first and those from more distant places only if required to make up a quota.

The Droop Quota

The concept of the quota was developed in a more sophisticated manner by H. R. Droop as follows:

The Droop Quota

| Number of Members to be Elected from Constituency | Minimum Votes Necessary to Ensure Election of Any Member (i.e. Quota) |
|---|---|
| 1 | $\frac{1}{2}$ of total votes + 1 vote |
| 2 | $\frac{1}{2}$ of total votes + 1 vote |
| 3 | $\frac{1}{3}$ of total votes + 1 vote |
| n | $\frac{1}{n+1}$ of total votes + 1 vote |

Contribution of Clark

In 1896, the Tasmanian Attorney General, A. I. Clark, secured the use of proportional representation for electing the Hobart and Launceston town councils and for choosing Hobart and Launceston representatives for the House

of Assembly. (The country seats were still single member constituencies.) To Clark also is attributed the credit for working out the modern method for dealing with surpluses and transfers.

Tasmanian System

The essential features of the system are as follows:

1. For an elector to cast a valid vote, he must express at least three preferences.
2. Names on the voting papers are arranged in distinct groups to facilitate recognition of allegiance to parties (but names of parties are not specified).
3. To secure election, candidates must secure a quota in accordance with the Droop formula (i.e. the total first-preference votes in the constituency divided by eight, plus one vote).
4. Should a candidate secure an exact quota on first preferences, his voting papers are set aside as finally dealt with.
5. If the first successful candidate secures a surplus above the quota, then all his voting papers are re-examined to determine which candidates should secure the second preferences.
6. The second preferences are first adjusted by multiplying them by a fraction called the transfer value. The transfer value is calculated by dividing the successful candidate's surplus first-preference votes by his total first preferences. The second-preference votes, adjusted in this way, are now transferred to other candidates.
7. When repetition of the above process results in a position where no further candidates can reach a quota, the candidate who is lowest on the poll is excluded and the preferences shown on his voting papers transferred to the remaining candidates.

The above processes are repeated until seven candidates have been elected. As might be expected, the counting of votes, calculation of transfer values and the transferring of votes are time-consuming and a week may elapse before the declaration of the poll.

Tasmanian Adoption

In 1907, an Electoral Act provided that all members of the House of Assembly were to be elected by proportional representation, the State being divided into five constituencies each of which was to be represented by six members. The first election in accordance with this Act was held in 1909.

The fourth schedule to the 1907 Act dealing with quotas, transfer of votes, exclusion of candidates, etc. is still the blue-print for counting votes today; however, as from the 1959 elections, the number of members for each constituency was increased from six to seven for reasons that will be later specified.

Advantages of System

The major advantage claimed for the system is that the composition of the House of Assembly tends to faithfully reflect the wishes of the electors viewed on a State basis, and that a party with a minority of first preferences is most unlikely to obtain a majority of seats, as sometimes occurs in systems with single-member constituencies. By way of example, South Australia using single-member electorates has sometimes been governed by parties receiving a minority of votes but a majority of seats; other Australian States have had similar experience.

Leaving aside the matter of independents and minority parties, and assuming that only candidates from the two major parties are elected, then the present pattern is for each constituency to elect four candidates from one of the major parties and three from the other. It follows, therefore, that the opposition is always adequately represented in the House of Assembly and supporters of the opposition party always have representatives for their constituency.

Resolution of Assembly Deadlocks

House of 30 Members

One of the virtues claimed for the Hare-Clark system is the adequate representation given to minorities. In a small House of 30 members, this virtue tended to be too evident and led to situations where the government of the day did not have the necessary majority to carry all its legislation with confidence.

The first remedy employed was the *Constitution Amendment Act 1954* which provided that, in the event of a 15-all draw between the two major parties in an election, an Electoral Commission would be established. This body's function would be to decide, on the basis of primary votes cast for each party, which were the majority and minority parties. On the meeting of Parliament, the minority party would then have the right to nominate one of its members to the office of Speaker. If the minority party refused to exercise this right, then the majority party might proceed to appoint one of its own members and it would receive an additional member in replacement, elected from the Speaker's constituency.

The election of 1955 created an equal distribution of seats and an Electoral Commission was accordingly appointed to decide the question of which was the majority party. The minority party nominated a member for Speaker and the Assembly elected him to the Chair.

The 1954 Act provided machinery for overcoming deadlocks but still did not have much impact on the major problem—that of providing the government of the day with an effective working majority.

House of 35 Members

In 1958, a further constitutional amendment was made in which the number of members to be elected for each constituency was increased from six to seven, thus enlarging the House of Assembly from 30 to 35 members. At the first elections held under the provisions of this amendment (May 1959), the major parties secured 17 and 16 seats respectively, the remaining seats being won by independents. At the May elections of 1964, the major parties secured 19 and 16 seats respectively, with independents and minority parties winning no representation.

Life of House of Assembly

After the *Constitution Act 1936*, the House was elected for five-year terms. The 1954 Act provided that the term should be reduced to three years if the special deadlock provisions were invoked to appoint a Speaker, but passage of the 1958 Act restored the status-quo, i.e. five-year terms irrespective of the outcome of the election.

Constituencies of House of Assembly

The five constituencies for the House of Assembly are identical with the five electoral divisions electing members to the Federal House of Representatives. The alteration of electoral boundaries to accord with changes in population is carried out under a joint Commonwealth-State agreement.

The number of electors in each division is at present somewhat unbalanced, the largest enrolment being in Franklin (48,557 at 30 June 1967) and the smallest in Denison (35,694). An Electoral Commission is to make recommendations for boundary changes to correct this position. The year of the last boundary change was 1955 (after the 1954 Census); the results of the 1961 Census were not taken into account because the Federal Government desired more seats to be created in the House of Representatives before making Australia-wide boundary changes, and it wanted the number of Senate seats to remain the same. A referendum in 1967 to break the 2:1 relativity between lower house and Senate seats having received a negative vote, the process of boundary revision, based on 1966 Census results and current enrolments, will now be carried out (*see Appendix C at end of book*).

The existence of common electoral divisions, both for the House of Assembly and the House of Representatives, allows a joint electoral roll to be maintained and to be used both in State and Federal elections. *See Appendix C for details of boundary revisions not incorporated in the map below.*



Proportional Representation by the Single Transferable Vote

Many regard the system of election for the House of Assembly as being a phenomenon peculiar to Tasmania. This is by no means so, since the following countries either use or have used a similar system of election: Republic of Ireland (both Houses), South Africa (Senate), Malta (both Houses), Gibraltar

(Legislative Council), Canada (for some provincial electorates in Alberta and Manitoba) and Australia itself, in the election of the Federal Senate. If the State has any claim to being unique in the field of electoral reform, it must be based on the fact that Tasmania was the first country in the world to introduce proportional representation by the single transferable vote.

Elections for the Legislative Council

Annual Fractional Elections

For the purpose of electing members of the Legislative Council, the State is divided into nineteen single-member constituencies. Each member, when elected, holds office for six years and Council elections are held every year to elect three members; however, in every sixth year counting from 1965, it is necessary to elect four members.

Should the seat of a member become vacant otherwise than by effluxion of time, the person elected to fill the vacancy holds office only till the expiration of the period for which the vacating member was elected.

Preferential Voting

Candidates appear on the voting paper in alphabetical order and are not grouped to show party allegiance as in voting papers for the House of Assembly. If there are two candidates, the voter need only vote for one. If there are three or more candidates, the voter must indicate at least three preferences to record a valid vote.

If any candidate secures first-preference votes exceeding half the total first preferences, he is declared elected. If no candidate satisfies this condition, then the candidate with the fewest votes is excluded and the second preferences shown on his voting papers are transferred to other candidates, the transfer value of each such second preference being equal to one.

If no candidate now has the required majority, the process of exclusion is repeated until such time as one candidate secures the majority.

The method of counting is identical with that used in elections for the Federal House of Representatives and is termed preferential. The full description is election by absolute majority through use of the alternative vote.

New Boundaries, Legislative Council Divisions

Introduction

Late in 1967, the *Constitution Act 1934* was amended to change the boundaries of the Legislative Council Divisions; the *old* boundaries were to be used for the 1968 election and the *new* boundaries for the 1969 election.

Nature of Change

The number of electors within old boundaries in 1967 in *Launceston* was 2,883; in *Pembroke*, 16,693. Between these extremes, there was considerable variation. The Select Committee, whose recommendations were accepted, could have devised new boundaries to give an approximate equality of electors in each Division, but this would have been effective only for a short period due to differential population growth rates. The Committee's solution was to classify and form amended Divisions as follows:

(i) *Urban and Suburban*: The Divisions based on Hobart were changed to exclude rural population (e.g. *Pembroke* restricted to Clarence Municipality and municipalities of Sorell, Richmond, Tasman, Spring Bay and Glamorgan transferred to *Monmouth*). A similar change in the Launceston-based Divisions involved a conversion of *Westmorland* to a basically urban electorate, with

a resultant drastic decrease in area. Within these newly-defined urban areas, adjustments were made to give maximum electors (12,693) in *Pembroke* and minimum electors (8,574) in *Buckingham*.

(ii) *Rural*: The main changes were the excision of urban areas, e.g. Hobart's outer northern suburbs transferred from *Derwent* to *Buckingham*. The new boundaries give maximum electors (8,026) in *Russell* and minimum electors (5,456) in *Monmouth*.

(iii) *Special*: *Gordon* was treated as a special case on the grounds of geography and special community of interest (mining). No change was made.

The following table shows: (i) the classification of the Divisions; (ii) the number of electors within both old and new boundaries.

Legislative Council: Effect of Changed Boundaries on Number of Electors in Each Division

| Division (a) | Approximate Enrolments 1967, Within— | | Division (a) | Approximate Enrolments 1967, Within— | |
|-------------------|--------------------------------------|----------------|------------------|--------------------------------------|----------------|
| | Old Boundaries | New Boundaries | | Old Boundaries | New Boundaries |
| Urban Group— | | | Non-urban Group— | | |
| Hobart (H) .. | 4,724 | 10,724 | Derwent (R) .. | 13,324 | 6,650 |
| Newdegate (H) .. | 7,801 | 11,039 | Huon (R) .. | 9,302 | 7,502 |
| Buckingham (H) .. | 11,138 | 8,574 | Macquarie (R) .. | 6,704 | 6,654 |
| Pembroke (H) .. | 16,693 | 12,693 | Meander (R) .. | 5,414 | 6,780 |
| Queenborough (H) | 7,466 | 9,266 | Monmouth (R) .. | 3,556 | 5,456 |
| Launceston (L) .. | 2,883 | 9,353 | Russell (R) .. | 8,026 | 8,026 |
| Cornwall (L) .. | 6,519 | 9,309 | South Esk (R) .. | 9,350 | 7,396 |
| Westmorland (L) | 13,451 | 8,737 | Tamar (R) .. | 8,259 | 6,117 |
| West Devon (BP) | 9,200 | 9,534 | Gordon (S) .. | 3,610 | 3,610 |
| Mersey (DU) .. | 10,881 | 10,881 | TOTAL .. | 158,301 | 158,301 |

(a) Key to symbols: (H) = Hobart and suburban; (L) = Launceston and suburban; (BP) = Burnie and Penguin municipalities; (DU) = Parts of Devonport and Ulverstone municipalities; (R) = rural; (S) = special.

Qualifications of Electors and Members

Qualifications of an Elector for the House of Assembly

An elector for the House of Assembly is any person, aged at least twenty-one years, male or female, who has lived in the State six months continuously, who is a natural-born or naturalised subject of the Queen and whose name is on the electoral roll for any Assembly division. Voting has been compulsory since the *Electoral Act 1928*.

Qualifications of Members of House of Assembly

To be eligible for election as a member of the House of Assembly, a candidate must comply with the following conditions:

He must either be an elector or be qualified to be an elector for the House of Assembly, and resident in Tasmania for five years at any one time or resident for two years immediately preceding the election.

Qualification of Electors for the Legislative Council

An elector for the Legislative Council is any person, aged at least twenty-one years, male or female, who is a natural-born or naturalised subject of Her Majesty, who has been resident in the State for a period of six months and whose name is on the electoral roll for any Council division.

To obtain enrolment, the elector, in addition to meeting the basic requirements set out above, must establish that he belongs to one of the following categories of persons:

1. The owner of a freehold estate in possession, whether legal or equitable.
2. The occupier of any property, e.g. the tenant of a dwelling-house.
3. The spouse of an owner or occupier as defined in (1) and (2).
4. A graduate of any University in the British Dominions.
5. A legal practitioner on the roll of the Supreme Court.
6. A legally qualified medical practitioner.
7. An officiating minister of religion.
8. An officer or retired officer of Her Majesty's forces.
9. An honourably discharged member of Her Majesty's forces who fulfills certain conditions of service (e.g. in the case of troops raised in Tasmania for World War II, full-time service outside Tasmania is stipulated). Where a discharged member of the forces is a minor but still complies with the requirements of paragraph (9), such member is eligible to be enrolled and to vote.

Voting has been compulsory since the *Electoral Act 1928*.

Qualifications of Members of Legislative Council

A candidate for the Legislative Council must be an elector or have the qualifications of an elector for the Council; in addition to meeting the residential and nationality restrictions imposed on candidates for the House of Assembly, he must be at least twenty-five years of age.

Persons of unsound mind or in prison under any conviction are barred from voting at elections for either House or from being elected to either House. No person shall be capable of being a Member of both Houses at the one time.

By-Elections

House of Assembly

In the case of a vacancy occurring in the House of Assembly, there is provision for the Chief Electoral Officer to publicly invite nominations from candidates who were unsuccessful at the last general election in the constituency which elected the vacating member. If one nomination only is received, then the Chief Electoral Officer declares the consenting candidate elected and notifies the Governor to this effect.

If more than one such nomination is received, the Chief Electoral Officer is required to examine the voting papers counted for the vacating member at the last general election. In the simple case—where the vacating member obtained a surplus above the quota—this can be confined to voting papers expressing first choices. In the more difficult case—where the vacating member did not obtain a quota on first choices—it is necessary to take into account not only original first-choice papers but also all voting papers representing votes transferred to the vacating member.

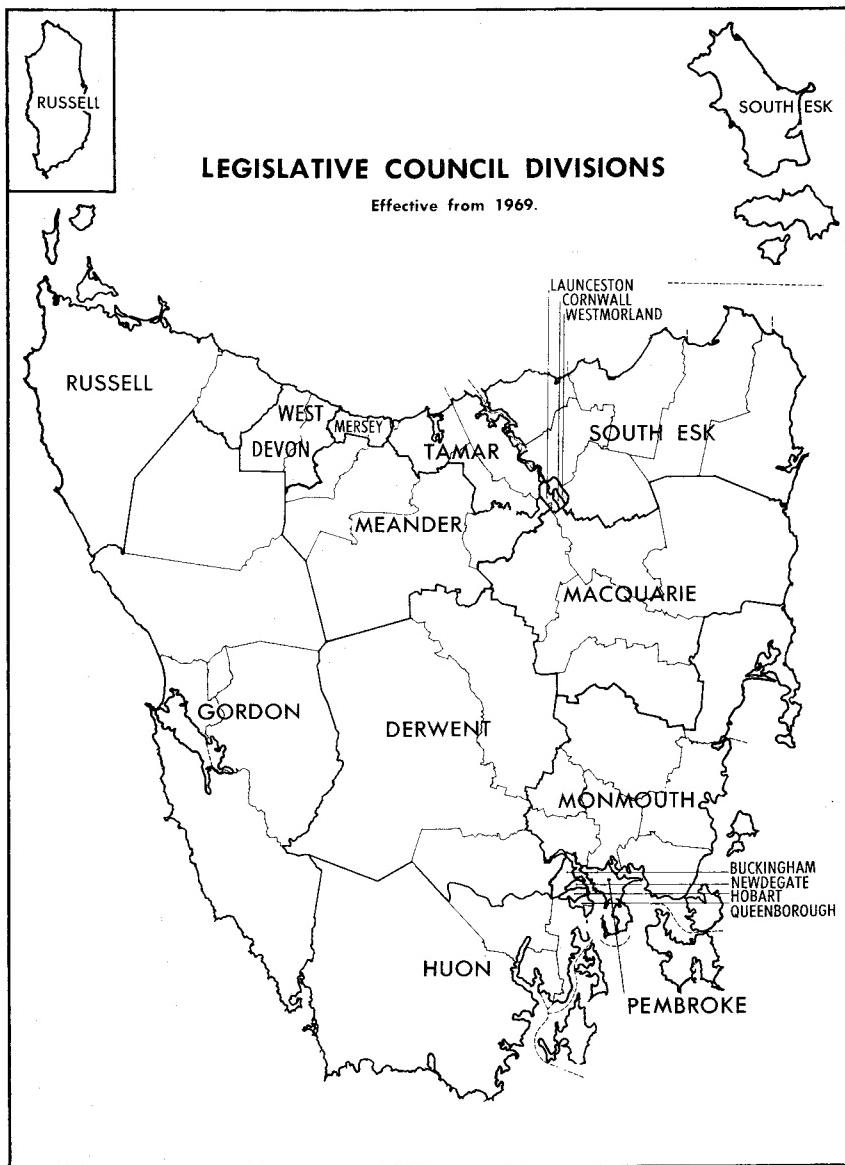
The vacating member's voting papers, as defined above, are examined and all his votes are transferred to the consenting candidates according to the preferences expressed thereon. Second preferences derived from first choice votes of the vacating member have a transfer value of one, but from votes he obtained by transfer, only the value at which he obtained them. For the purpose of the count, first-choice votes received by the consenting candidates at the general election are not relevant—the selection is based on preferences as revealed by the voting papers of the vacating member.

When the number of votes in favour of each consenting candidate has been ascertained, the final selection is by the method of the absolute majority through the alternative vote.

If no nominations are received from candidates unsuccessful at the last general election, then an election is held to fill the vacancy.

Legislative Council

In the case of a vacancy occurring in the Legislative Council, a writ is issued directing that an election be held to fill the vacancy. There is no provision for a re-count of voting papers of the vacating member as in by-elections for the House of Assembly.



Members of Legislative Council

The following shows members of the Legislative Council and the year in which each will retire:

| Electoral District | Name | Year for Retirement |
|--------------------|---|---------------------|
| Buckingham .. | Lowrie, The Hon. Kenneth Francis | 1974 |
| Cornwall .. | Foot, The Hon. Geoffrey James | 1972 |
| Derwent .. | Dixon, The Hon. Joseph Henry | 1973 |
| Gordon .. | Broadby, The Hon. Albert James | 1970 |
| Hobart .. | Benjamin, The Hon. Phyllis Jean, M.B.E. (a) | 1970 |
| Huon .. | Hodgman, The Hon. William Michael | 1972 |
| Launceston .. | Orchard, The Hon. John Raymond | 1970 |
| Macquarie .. | Shaw, The Hon. George Arthur | 1974 |
| Meander .. | Best, The Hon. Charles Robinson | 1971 |
| Mersey .. | McFie, The Hon. Hector | 1972 |
| Monmouth .. | Bisdee, The Hon. Louis Fenn | 1969 |
| Newdegate .. | Miller, The Hon. Brian Kirkwall (a) | 1969 |
| Pembroke .. | McKay, The Hon. Eric Charles | 1971 |
| Queenborough .. | Shoobridge, The Hon. Louis Manton | 1971 |
| Russell .. | Fenton, The Hon. Charles Balfour Marcus | 1969 |
| South Esk .. | Carins, The Hon. Lloyd Horton | 1974 |
| Tamar .. | Hitchcock, The Hon. Daniel | 1973 |
| West Devon .. | Davis, The Hon. Walter John Torley | 1971 |
| Westmorland .. | Gregory, The Hon. Oliver Harold | 1973 |

(a) Endorsed by Australian Labor Party; balance of members independents.

Members of House of Assembly

The following shows members of the House of Assembly elected on 2 May 1964 (with their party allegiance shown in brackets):

| Name | Electoral Division |
|---|--------------------|
| Abbott, Nigel Drury, Esquire (Lib.) | Denison |
| Anderson, William, Esquire (A.L.P.) | Wilmot |
| Atkins, The Hon. Alexander Charles (A.L.P.) | Bass |
| Austin, Kenneth Ernest, Esquire (A.L.P.) | Denison |
| Barker, Wilfred George, Esquire (Lib.) | Braddon |
| Barnard, Eric Walter, Esquire (A.L.P.) | Franklin |
| Beattie, Eric William, Esquire (Lib.) | Bass |
| Bessell, Leonard Hubert, Esquire (Lib.) | Wilmot |
| Bethune, The Hon. Walter Angus (Lib.) (a) | Wilmot |
| Breheney, John Gerald, Esquire (Lib.) | Braddon |
| Bushby, Maxwell Holmes, Esquire (Lib.) | Bass |
| Cashion, The Hon. Douglas Alfred (A.L.P.) | Wilmot |
| Chisholm, Geoffrey Donald, Esquire (A.L.P.) | Braddon |
| Clark, Douglas Frank, Esquire (Lib.) | Franklin |
| Costello, Lloyd Edwin Albert, Esquire (A.L.P.) | Braddon |
| Everett, The Hon. Mervyn George, Q.C. (A.L.P.) | Denison |
| Fagan, The Hon. Roy Frederick (A.L.P.) | Wilmot |
| Fraser, Wallace Harcourt, Esquire (A.L.P.) | Bass |
| Frost, Stewart Charles Hilton, Esquire (A.L.P.) | Franklin |
| Ingamells, Christopher Robert, Esquire (Lib.) | Wilmot |
| Le Fevre, Vernon MacKenzie, Esquire (A.L.P.) | Bass |
| Lyons, Kevin Orchard, Esquire (b) | Braddon |

Members of House of Assembly—continued

| Name | | | | Electoral Division |
|--|----|----|----|--------------------|
| McDonald, Thomas Raymond, Esquire (A.L.P.) | .. | .. | .. | Wilmot |
| McLoughlin, The Hon. Henry Joseph (A.L.P.) | .. | .. | .. | Denison |
| Madden, The Hon. John Lewis (A.L.P.) | .. | .. | .. | Bass |
| Martin, Terence Norman, Esquire (A.L.P.) | .. | .. | .. | Franklin |
| Mather, Robert, Esquire (Lib.) | .. | .. | .. | Denison |
| Neilson, The Hon. William Arthur (A.L.P.) | .. | .. | .. | Franklin |
| Pearsall, Thomas Gordon, Esquire (Lib.) (c) | .. | .. | .. | Franklin |
| Reece, The Hon. Eric Elliott (A.L.P.) | .. | .. | .. | Braddon |
| Steer, John Leslie, Esquire (Lib.) (d) | .. | .. | .. | Bass |
| Strutt, Horace William, Esquire, D.S.O., E.D. (Lib.) | .. | .. | .. | Denison |
| Townley, Reginald Colin, Esquire (Lib.) (e) | .. | .. | .. | Denison |
| Ward, The Hon. Sidney Victor (A.L.P.) | .. | .. | .. | Braddon |
| Young, Aretas William Overton, Esquire (Lib.) | .. | .. | .. | Franklin |

(a) Leader of the Opposition.

(b) Resigned from Liberal Party and formed Australian Centre Party, October 1966.

(c) Resigned and replaced by Iles, Eric Clifton, Esq. (Lib.), on 27 October 1966.

(d) Died and replaced by Henty, James Wilson, Esq. (Lib.), October 1968.

(e) Resigned and replaced by Brown, George Deas, Esq. (Lib.), on 12 July 1965.

*Legislative Council***Parliamentary Elections**

There are no general elections for the Legislative Council, three members retiring each year except in the years 1959, 1965, 1971, etc., when four members retire. At 30 April 1967, there were 158,435 electors enrolled; of these, 68,135 were qualified as owners of property, 31,811 as occupiers of property and 58,489 qualified on other grounds; 77,608 were males and 80,827 females. In the last six years, votes cast at the annual elections have varied from 71.5 to 91.8 per cent of enrolled electors in individual electorates. When a Select Committee investigated boundaries in 1967 with revision as an aim, the electorate with the greatest enrolment was Pembroke (16,693) and with the smallest, Launceston (2,883). As from 1969, revised divisional boundaries will be in use but the new divisions by no means contain equal numbers of electors (see ‘New Boundaries, Legislative Council Divisions’ earlier in chapter).

House of Assembly

The last general election for the House of Assembly was held on 2 May 1964. The following table shows the voting in general elections held for the House of Assembly since 1931:

Assembly Elections Since 1931

| Year of Election | Electors on Roll | Votes Recorded | | Informal Votes | |
|------------------|------------------|----------------|------------------------------------|----------------|---------------------------|
| | | Number | As Percentage of Enrolled Electors | Number | Percentage of Total Votes |
| 1931 | 118,730 | 112,779 | 95.0 | 3,885 | 3.44 |
| 1934 | 127,681 | 120,622 | 94.5 | 3,855 | 3.20 |
| 1937 | 132,001 | 124,460 | 94.3 | 2,997 | 2.41 |
| 1941 | 139,234 | 127,034 | 91.2 | 6,344 | 4.99 |
| 1946 | 157,756 | 143,674 | 91.1 | 14,484 | 10.08 |
| 1948 | 161,088 | 148,588 | 92.2 | 5,866 | 3.95 |
| 1950 | 161,650 | 152,785 | 94.5 | 6,841 | 4.48 |
| 1955 | 173,165 | 162,637 | 93.9 | 6,158 | 3.79 |
| 1956 | 174,632 | 166,293 | 95.2 | 6,968 | 4.19 |
| 1959 | 180,344 | 170,559 | 94.6 | 9,816 | 5.76 |
| 1964 | 193,364 | 184,571 | 95.5 | 7,980 | 4.32 |

Electors on the joint rolls (for State House of Assembly, Federal House of Representatives and Senate elections) at 30 June 1967 numbered 203,108 distributed thus: Bass, 40,465; Braddon, 41,140; Denison, 35,694; Franklin,

48,557; Wilmot, 37,252. In the Senate elections of 25 November 1967, voters numbered 193,307, distributed thus: Bass, 37,840; Braddon, 39,485; Denison, 33,473; Franklin, 46,772; Wilmot, 35,737. (See also Appendix C.)

The percentage of informal votes in the previous table is not particularly high, even though the voting papers for six or seven-member electorates are necessarily more complicated than those for single-member electorates. In Senate elections held in Tasmania, informal votes tend to be rather a large proportion of votes cast and, in the 1934 election, exceeded 16 per cent. In Assembly elections, only three preferences are compulsory whereas in Senate elections, the voter must indicate as many preferences as there are candidates.

Effectiveness of Hare-Clark System

Since voting for the House of Assembly requires a voter to make at least three choices in order of preference, any complete investigation of the effectiveness of the system requires a study of all preference votes. However, an approximate measure of effectiveness can be obtained by treating the State as a single electorate and finding the total first-preference votes obtained by each party; from these totals it is possible to calculate, by simple proportion, the theoretical share of seats to which each party is entitled. In the table that follows, this measure of effectiveness has been calculated for all House of Assembly elections in the period 1931-1964 inclusive. It will be seen that the relationship between seats actually won and the calculated proportionate share is fairly close in most years for the major parties. In 1955 and 1956, however, the allocation of preferences from non-elected candidates outside the two main parties must be taken into account. Similarly, in 1959 and 1964, the increase in the size of the House brought about by seven-member electorates appears to give the two major parties a slight surplus of seats over and above the calculated proportionate share, the major influence again being the allocation of preferences from candidates outside the two major parties. (At the 1964 elections, the contending parties were Communist Party, Country Party, Democratic Labor Party, Labor Party and Liberal Party, whilst a number of candidates stood as independents.)

Representation of Parties for the Whole State, 1931-1964
House of Assembly

| Election Year | Labor | | Liberal or Nationalist (b) | | Other (c) | |
|----------------|-------------------------|-----------|----------------------------|-----------|-------------------------|-----------|
| | Proportionate Share (a) | Seats Won | Proportionate Share (a) | Seats Won | Proportionate Share (a) | Seats Won |
| 1931 | 10.47 | 10 | 16.92 | 19 | 2.61 | 1 |
| 1934 | 13.74 | 14 | 14.01 | 13 | 2.25 | 3 |
| 1937 | 17.61 | 18 | 11.64 | 12 | 0.75 | .. |
| 1941 | 18.78 | 20 | 10.98 | 10 | 0.24 | .. |
| 1946 | 15.29 | 16 | 10.27 | 12 | 4.44 | 2 |
| 1948 | 14.82 | 15 | 11.35 | 12 | 3.83 | 3 |
| 1950 | 14.59 | 15 | 14.27 | 14 | 1.14 | 1 |
| 1955 | 15.79 | 15 | 13.60 | 15 | 0.61 | .. |
| 1956 | 15.08 | 15 | 13.08 | 15 | 1.84 | .. |
| 1959 (d) | 15.58 | 17 | 14.37 | 16 | 5.05 | 2 |
| 1964 (d) | 17.97 | 19 | 13.47 | 16 | 3.56 | .. |

(a) State treated as single electorate and proportionate share of seats calculated on basis of first preference votes cast for parties.

(b) Liberal as from 1948 election.

(c) Independents and minority parties.

(d) 35 members elected.

Salaries of Members of Parliament*Committees of Enquiry*

In determining the level of parliamentary salaries in State and Commonwealth legislatures, it has been fairly general practice in the last decade to establish committees of enquiry, the members of which are drawn from outside parliament. The committees of enquiry are required to make recommendations but their findings are treated by the parliaments as being merely a guide, and the legislation fixing new salaries and allowances has not necessarily followed the committees' recommendations in detail.

Parliamentary Salaries Tribunal

In 1962, the Tasmanian Parliament established a new principle by passing an Act for the setting up of a parliamentary salaries tribunal; this was to be a committee with members drawn from outside the Parliament but its findings, instead of being recommendations, were to be determinations binding on the Crown. Under Section 7 of the 1962 Act, 'a determination is binding upon the Crown' and 'where no date is specified in a determination as the date on which the determination is to come into force, the determination comes into force on the date on which it is made'. In effect, the Tasmanian Parliament has adopted the principle of wage and salary fixation by independent tribunal and placed its members in the same position as the great majority of workers whose remuneration is fixed by determinations of industrial courts.

The Parliamentary Salaries Tribunal heard evidence after the elections on 2 May 1964, and made a determination to come into effect as from 1 October 1964. It made its second determination in 1967.

Determinations of the Parliamentary Salaries Tribunal, 1964 and 1967

| Particulars | Rate Per Annum from 19.4.1962 (\$) | Rate Per Annum from 1.10.1964 (\$) | Rate Per Annum from 1.10.1967 (\$) |
|-------------|------------------------------------|------------------------------------|------------------------------------|
|-------------|------------------------------------|------------------------------------|------------------------------------|

BASIC SALARY OF MEMBERS

| | | | |
|--------------------------------|-------|-------|-------|
| Member, Legislative Council .. | 3,700 | 4,600 | 6,000 |
| Member, House of Assembly .. | 3,700 | 4,600 | 6,000 |

SPECIAL RATES (GROSS) (a)

| | | | | |
|---------------------------------|-----------|------------|------------|--|
| Cabinet— | | | | |
| Premier | (b) 8,100 | (b) 10,000 | (b) 13,300 | |
| Deputy-Premier | 6,500 | 8,200 | 11,300 | |
| 'Senior' Ministers | 6,100 | 7,600 | | |
| 'Junior' Ministers | 5,300 | 7,600 | | |
| Legislative Council— | | | | |
| President | 5,000 | 6,200 | 8,060 | |
| Chairman of Committees | 4,400 | 5,400 | 7,300 | |
| Government Leader | 5,900 | 7,000 | 9,100 | |
| Deputy Leader | 4,350 | 5,250 | 6,800 | |
| House of Assembly— | | | | |
| Speaker | 5,000 | 6,200 | 8,060 | |
| Leader of Opposition | (c) 5,900 | (c) 7,400 | (c) 9,950 | |
| Deputy Leader | 4,400 | 5,400 | 7,020 | |
| Chairman of Committees | 4,400 | 5,400 | 7,300 | |

(a) All rates include the basic salary received by the office-holder as a member.

(b) Excludes entertainment allowance of \$700 (1962 and 1964) and \$900 (1967).

(c) Excludes travelling allowance of \$400 (1962); \$500 (1964); and \$650 (1967).

One effect of the 1964 determination was to remove the salary distinction between 'senior' Ministers and 'junior' Ministers; the tribunal found that the distinction rested solely on historical grounds. In 1967, provision was made to pay Ministers \$18 a week residential allowance if unable to return home each day.

The Tribunal also reviewed electorate allowances and arranged Legislative Council electorates into five groups, members from each group receiving the same allowance. It changed these relativities in 1967.

Electorate Allowances: Parliamentary Salaries Tribunal, 1964 and 1967

| Electorate | Rate Per Annum from 19.4.1962 | Rate Per Annum from 1.10.1964 | Rate Per Annum from 1.10.1967(a) |
|-------------------------|-------------------------------|-------------------------------|----------------------------------|
| Legislative Council— | \$ | \$ | \$ |
| (i) Buckingham | 570 | | 700 |
| Hobart | 550 | | 600 |
| Newdegate | 550 | 600 | 600 |
| Queenborough | 500 | | 600 |
| (ii) Cornwall | 770 | | 600 |
| Launceston | 770 | 750 | 600 |
| Westmorland | 770 | | 800 |
| (iii) Derwent | 920 | | 1,100 |
| Huon | 880 | | 1,000 |
| Mersey | 880 | 900 | 900 |
| Tamar | 1000 | | 1,000 |
| West Devon | 770 | | 900 |
| (iv) Gordon | 1000 | | 1,000 |
| Macquarie | 1000 | | 1,100 |
| Monmouth | 1050 | 1000 | 1,000 |
| Pembroke | 920 | | 1,400 |
| (v) Meander | 1150 | | 1,200 |
| Russell | 1100 | 1100 | 1,400 |
| South Esk | 1100 | | 1,400 |
| House of Assembly— | | | |
| Denison | 1100 | 1100 | 1,100 |
| Franklin | 1450 | 1450 | 1,650 |
| Bass | 1500 | 1500 | 1,700 |
| Braddon | 1700 | 1700 | 1,900 |
| Wilmot | 1750 | 1850 | 2,100 |

(a) Ministers and Leader of Opposition to receive 75 per cent only.

The previous salaries and allowances (dated from 19.4.62) were as suggested by a Board of Enquiry which reported in 1960.

The Tribunal in 1964 specified \$7.50 per day 'when Parliament sits payable to a Member (other than a Minister) who incurs expense in securing overnight accommodation away from his ordinary place of residence'. This was increased to \$10 in 1967. Also in 1967, home telephone rentals were to be paid for members.

ACTS OF STATE PARLIAMENT
Summary of Recent Acts

In the list that follows, the notation used is:

- (A 1952)—An Act to amend an Act of the same title passed in 1952.
- (R 1952)—An Act to repeal an Act of the same title passed in 1952.
- (P 1952)—An Act to be incorporated and to be read as one with the Principal Act passed in 1952.
- (RS 1952)—An Act to repeal an Act of the same title passed in 1952 and to substitute new legislation.

State Acts, 1966

| Number | Short Title and Summary |
|--------|---|
| 1 | Libraries (A 1943)—constitution of the Board. |
| 2 | Tasmanian Orchestra (A 1951)—State contributions. |
| 3 | Nurses' Registration (A 1952)—the Registration Board. |
| 4 | Dentists (A 1919)—qualifications for registration. |
| 5 | Waterworks Clauses (A 1952 and 1963)—water for ships, mains for fire-fighting. |
| 6 | Supply 1966-67—Consolidated Revenue. |
| 7 | Long Service Leave (Casual Wharf Clerks)—provision for wharf clerks. |
| 8 | Plant Diseases (A 1930)—miscellaneous provisions. |
| 9 | Workers' Compensation (A 1927)—miscellaneous provisions. |
| 10 | Education (A 1932)—the Schools Board, the Schools Board Certificate. |
| 11 | Long Service Leave (A 1956)—entitlement provisions. |
| 12 | Notification of Births (R 1910)—obligation to notify. |
| 13 | St Vincent's Hospital Loan Guarantee—Treasurer's guarantee of repayment of loans. |
| 14 | Circular Head Marine Board Loan (A 1950)—power to borrow. |
| 15 | Radioactive Substances (A 1954)—licences and permits. |
| 16 | Wages Boards (A 1920)—powers, functions, determinations. |
| 17 | Factories, Shops, and Offices (A 1965)—newsvendors, butchers' shops, small shops, miscellaneous provisions. |
| 18 | Florentine Valley Paper Industry (A 1935)—miscellaneous provisions. |
| 19 | Artificial Breeding (A 1964)—working capital. |
| 20 | Hydro-Electric Commission (A 1944)—audit of accounts, way-leave contracts and easements. |
| 21 | Cleveland Tin Loan Guarantee—Treasurer's guarantee of repayment of loans. |
| 22 | Crown Lands (Miscellaneous Provisions) (P Crown Lands Act 1935)—dealings of Crown with a named company and individuals. |
| 23 | Fire Brigades (A 1945)—variation of fire district boundaries. |
| 24 | Criminal Code (A the Criminal Code)—disqualification of convicted motor drivers. |
| 25 | Evidence (A 1910)—evidence of breath tests in certain cases. |
| 26 | Traffic (A 1925)—amendments associated with Acts 24 and 25, miscellaneous provisions. |
| 27 | Housing Agreement (A 1935)—the 1956-66 Agreement with the Commonwealth, miscellaneous provisions. |
| 28 | Companies (A 1962)—extensive amendment. |
| 29 | Associations Incorporation (A 1964)—accounts, audit. |
| 30 | Education (No. 2) (A 1932)—miscellaneous provisions. |
| 31 | Loan Fund Appropriation 1966-67. |
| 32 | Appropriation Act 1966-67—Consolidated Revenue. |
| 33 | Supplementary Appropriation 1965-1966—Consolidated Revenue. |
| 34 | Land Tax (P 1910)—rates of land tax for 1966-67. |
| 35 | Public Health (A 1962)—extensive miscellaneous provisions. |
| 36 | Medical (A 1959)—registration of medical practitioners. |
| 37 | Fruit Board (A 1934)—miscellaneous provisions. |
| 38 | Justices (A 1959)—disqualification of convicted motor drivers. |
| 39 | Friendly Societies (A 1888)—rules. |
| 40 | Long Service Leave (No. 2) (A 1963)—effect of Section 3 of the Act. |
| 41 | Allport Library and Museum of Fine Arts Agreement—power to implement. |
| 42 | Public Service (A 1923)—appointment of Commissioner. |
| 43 | Audit (A 1918)—salary of Auditor General. |
| 44 | Superannuation (A 1938)—State contributions, amount of pension. |
| 45 | Education (No. 3) (A 1932)—powers of the Minister, regulations. |
| 46 | Registration of Births and Deaths (A 1895)—certificate of perinatal death, miscellaneous provisions. |
| 47 | Conveyancing Law and Property (A 1884)—miscellaneous provisions. |
| 48 | Local Government (Registered Titles) (A 1962)—miscellaneous provisions. |
| 49 | Inspection of Machinery (A 1960)—miscellaneous provisions. |
| 50 | Jury (A 1899 and Local Courts Act 1896)—jury service. |
| 51 | Motor Vehicles Tax (A 1917)—schedule. |
| 52 | Housing Loans (Powers of Trustees)—powers in relation to housing loans. |
| 53 | Traffic (No. 2) (A 1925)—appeals. |
| 54 | Grain Reserve (A 1950)—conditions relating to staff. |
| 55 | Mining (A 1929)—miscellaneous provisions, application of Principal Act to lands at Boobyalla. |

State Acts, 1966—*continued*

| Number | Short Title and Summary |
|--------|---|
| 56 | Long Service Leave (Casual Wharf Clerks) (No. 2) (A 1966)—meaning of ‘ordinary pay’, payment in lieu of long service leave on death. |
| 57 | Crown Lands (Miscellaneous Provisions) (No. 2)—dealing of Crown with certain individuals and bodies. |
| 58 | Agent General (A 1911)—salary of Agent General. |
| 59 | Underground Water—the protection of underground water. |
| 60 | Public Service (Equal Pay)—equal pay for male and female employees in defined circumstances. |
| 61 | Real Property (A 1862 and 1886)—miscellaneous provisions. |
| 62 | Commonwealth Powers (Trade Practices)—reference of certain matters to the Parliament of the Commonwealth. |
| 63 | Elderly Citizens’ Clubs and Youth Centres—financial assistance. |
| 64 | King Island Community Hotel—power to establish and carry on a hotel. |
| 65 | Beltana Recreation Reserve—extinguishment of user rights to allow erection of library. |
| 66 | Marine (No. 2) (A 1921)—miscellaneous provisions. |
| 67 | Marine (A 1921)—miscellaneous provisions. |
| 68 | Local Government (Municipal Commission) (A 1962)—miscellaneous provisions. |
| 69 | Workers’ Compensation (No. 2) (A 1966)—minor amendment. |
| 70 | Cecilia Button Medical Centre Agreement—power to implement. |
| 71 | Hydro-Electric Commission (Lower Derwent Power Development and Miena Dam) (A Loan [H.E.C.] Act 1961 and H.E.C. [Miena Dam] Act 1964)—lower Derwent power schemes. |
| 72 | Crown Lands (Miscellaneous Provisions) (No. 3)—land sale at Coningham to club. |

State Acts, 1967

| Number | Short Title and Summary |
|--------|--|
| 1 | Fire Damage Relief—assistance for victims of February fire disaster. |
| 2 | Marketable Securities—prescription of method of transfer, etc. |
| 3 | Stamp Duties (A 1931)—taxation affecting marketable securities, etc. |
| 4 | Supply 1967–68—appropriation of funds. |
| 5 | Plumbers’ Registration (1951)—local authorities’ rights. |
| 6 | Coroners (A 1957)—deaths on roads and criminal proceedings. |
| 7 | State Employees (Long Service Leave) (A 1950)—calculation of service; transferred employees. |
| 8 | Entertainments Tax (A 1953)—re-imposition of tax. |
| 9 | Audit (A 1918)—calculation of fortnightly, daily, etc. salaries. |
| 10 | Launceston Flood Protection (A 1960)—works management, powers of Board. |
| 11 | Stock (A 1932)—compensation for animals destroyed. |
| 12 | Wesley Vale Pulp and Paper Industry (A 1961)—variation in water rights. |
| 13 | Apprentices (A 1942)—attendance at classes; regulations. |
| 14 | Lands Resumption (A 1957)—compensation and value of land. |
| 15 | Public Authorities’ Land Acquisition (A 1949)—miscellaneous provisions. |
| 16 | North Esk Regional Water (A 1960)—completion of works; schedule amendment. |
| 17 | Cosgrove Park (A 1962)—transfer of land. |
| 18 | Queen Victoria Maternity Hospital (A 1952)—the Board; appointment of chairman, etc. |
| 19 | Apple and Pear Crop Insurance (R Hail Insurance 1957)—setting up of fund and Board. |
| 20 | Education (A 1932)—capitation grants to private schools. |
| 21 | Kingborough Municipal Commission—validation of past actions, extension of term. |
| 22 | Burnie Marine Board Loan (A 1936)—extension of borrowing power. |
| 23 | Public Service Tribunal (A 1958)—fixation of salaries, review of determinations. |
| 24 | Mental Health Services—establishment of new Commission, etc. |
| 25 | Softwood Industry—financial agreement with Commonwealth for plantations. |
| 26 | Stamp Duties (No. 2) (A 1931)—tax variation. |

*Government and Administration**State Acts, 1967—continued*

| Number | Short Title and Summary |
|--------|---|
| 27 | Statutes Amendment (Basic Wage)—definition of basic wage in other Acts. |
| 28 | Licensing (A 1932, 1937, 1952, 1965)—restaurant licences; miscellaneous provisions. |
| 29 | Wages Boards (A 1920)—boards' powers, interim awards, union officials' entry, etc. |
| 30 | Hydro-Electric Commission (Power Development) (P 1944)—construction, Gordon River Scheme and Bell Bay thermal station. |
| 31 | Hydro-Electric Commission (A 1944)—flow in the Huon, level of Serpentine lake, conservation authority in south-west of State, etc. |
| 32 | Water (A 1957)—water levels. |
| 33 | Daylight Saving—creation of Tasmanian clock time. |
| 34 | Stamp Duties (No. 3) (A 1931)—Traffic Act applications; exemption of certain cheques. |
| 35 | Hydro-Electric Commission (Emergency Powers) (P 1944)—authority to cope with power shortage. |
| 36 | Maintenance (RS 1921)—matrimonial and affiliation proceedings, maintenance orders, local enforcement, reciprocal agreements for enforcement, etc. |
| 37 | Loan Fund Appropriation 1967-68—issue from Loan Fund. |
| 38 | Appropriation 1967-68—Consolidated Revenue Fund. |
| 39 | Supplementary Appropriation 1966-67—validation of some 1966-67 expenditure. |
| 40 | Land Tax (P Land and Income Tax 1910)—rates of tax. |
| 41 | Education (No. 2) (A 1932)—new titles, e.g. Director-General; other minor provisions. |
| 42 | Guide Dogs—to assist blind in public places and on public transport. |
| 43 | Devonport Marine Board Loan (A 1953)—extension of borrowing powers. |
| 44 | National Literature Board of Review—protection of members from legal action. |
| 45 | Circular Head Marine Board Loan (A 1950)—extension of borrowing powers. |
| 46 | Flinders Marine Board Loan (A 1952)—extension of borrowing powers. |
| 47 | Administration and Probate (A 1935)—succession on intestacy. |
| 48 | Trustee Companies (Amalgamation) (A 1953)—merger of two specified companies. |
| 49 | Elderly Citizens' Clubs and Youth Centres (A 1966)—approval of buildings; loans to municipalities. |
| 50 | Licensing (No. 2) (A 1932)—permits for social gatherings in hotels, etc. |
| 51 | Public Trust Office (A 1930)—miscellaneous provisions. |
| 52 | Evidence (A 1910)—affidavits, declarations, oaths. |
| 53 | Public Authorities' Land Acquisition (No. 2) (A 1949)—interest on compensation. |
| 54 | Constitution (A 1934)—Parliamentary sittings, Council elections, contractors; all money bills to originate in the Assembly. |
| 55 | Launceston Corporation (A 1963)—postal votes, vacancies, building estate roads. |
| 56 | Statutory Authorities' Reports—tabling of reports. |
| 57 | Marine (A 1921, 1963, 1966)—fees, change of authority title, fishing boats, etc. |
| 58 | Hospitals (A 1918)—recovery of cost of treatment from outside State, etc. |
| 59 | Superannuation (A 1938)—new scale of units. |
| 60 | Traffic (A 1925)—application of regulations to Crown. |
| 61 | Public Works Committee (A 1914)—travelling expenses. |
| 62 | Local Government (A 1962; A Hobart Corporation 1963 and Launceston Corporation 1963)—extensive provisions. |
| 63 | Petroleum (Submerged Lands)—complementary Commonwealth-State legislation dealing with oil in continental waters. |
| 64 | Hobart Corporation (A 1963)—new election provisions. |
| 65 | Electoral (A 1907)—changing rolls, postal votes, polling, bribery. |
| 66 | Public Service (A 1923)—provisions affecting married women. |
| 67 | Door to Door Sales—protection of purchasers. |
| 68 | Licensing (No. 3)—liquor in vicinity of public halls. |
| 69 | Crown Lands (Miscellaneous Provisions) (P 1935)—sale, transfer, etc. of specified properties. |
| 70 | Constitution (No. 2) (A 1934)—new Legislative Council boundaries. |
| 71 | Roads and Jetties (A 1935)—miscellaneous provisions. |
| 72 | Auctioneers and Estate Agents (A 1959)—the Council of agents; commissions. |
| 73 | Ex-servicemen's Badges—illegal wearing and possession. |

| Number | Short Title and Summary |
|--------|---|
| 74 | Loan Guarantees (Electricity Generating Plant)—guarantees to specified companies purchasing generating plant. |
| 75 | Rural Fires (RS 1950, 1961, 1963)—a revised organisation for the Rural Fires Board; Rural Fire Brigades; new financial provisions, etc. |
| 76 | Local Government (No. 2) (A 1962)—special and local rates, fire protection, etc. |
| 77 | Fire Brigades (A 1945, 1964)—new Commission constitution, new position Chief Officer, etc. |
| 78 | Workers' (Occupational Diseases) Relief Fund (A 1954)—definitions and interpretation. |
| 79 | Factories Shops and Offices (A 1965)—continuation of control of hours of petrol sales. |

ADMINISTRATION

The Government of 1869

Introduction

A hundred years ago, Tasmania was a self-governing colony, responsible for most functions of government but still dependent on the Imperial Government in London for defence and the direction of foreign affairs. The following section outlines the main structure of government and administration as it existed then when the population was only just over 100,000 persons.

Parliament and Cabinet

The Legislative Council consisted of 15 members, three for Hobart, two for Tamar and the balance representing one-member divisions. The House of Assembly had 30 members, five for Hobart, three for Launceston and the balance representing one-member divisions. Cabinet was headed by James Milne Wilson who also held the office of Colonial Secretary; contrary to modern practice, he held his seat in the Legislative Council. The other cabinet members, seated in the Assembly, were T. D. Chapman (Colonial Treasurer), W. L. Dobson (Attorney General) and H. Butler (Minister of Lands and Works); and in the Council, J. A. Dunn (no office).

Imperial Convict Department

Although the last transports berthed at Hobart in 1853, a residual convict population still existed in 1869 and returns for Port Arthur showed the daily average number under punishment as 380; the insane, 94; and paupers, 177. To guard and care for these 650 persons, there was a large body of officers, headed by a Civil Commandant and including overseers, a ship's mate, coxwains, schoolmasters, chaplains, medical officers, storekeepers, keepers of the insane, etc. The 43 officers listed in the service of the Imperial Convict Department had a wide range of salaries, starting with James Boyd, the Commandant, at £600 and descending to Jessie Todd, the schoolmistress at £15. Fortunately for the finances of the Tasmanian Government, the Imperial Government was still willing to acknowledge responsibility for creating the problem that existed at Port Arthur and, through the Commissariat Department, it spent £43,178 in maintaining the establishment in 1869.

Aborigines' Establishment

Under the miscellaneous officers of the colony's civil establishment is listed John Dandridge, in receipt of £140 per annum as Superintendent of Aborigines. The segregation of the aborigines from the settlers had been carried out in Arthur's regime (1824-1836), the first reservation being in the

Straits Islands and the second at Oyster Cove in 1847, when there were about 40 surviving. By 1869, Dandridge's post appeared to have become something of a sinecure, the return of aborigines residing at Oyster Cove at 31 December listing two females and no males; the expenses of the establishment were given as £254.

Ecclesiastical Establishment

With our modern concept of the separation of Church and State, it is something of a surprise to find 29 ministers of religion listed as part of the civil establishment, with their salaries recorded alongside those of gaolers, constables, beadles, and draftsmen. However, although the Colonial Treasurer provided the funds, he did not pay them directly to the ministers but to the governing bodies of the churches which then assumed responsibility for the salaries. The Church of England had 20 ministers on the civil establishment, salaries ranging from £200 to £310; the Church of Scotland, seven ministers, salaries ranging from £200 to £450; the Church of Rome, two ministers, salaries £250 and £310 respectively.

Defence

The last Imperial troops were withdrawn from Tasmania in 1870 and, in 1869, the colony should have been making some effort to take over responsibility for its own defence. The Governor, Charles Du Cane, appears in the civil establishment with the imposing title of Captain-General but his troops were spread very thinly. Expenditure for 1869 showed £1,455 'in aid of Volunteer Corps' and a return of the Corps records artillery only, with two batteries in the south and one in the north; the strength of the volunteers was seven officers and 228 other ranks.

Postal and Telegraphic Services

In 1869, Tasmania had its own distinctive stamps and administered its own postal services, the Postmaster and Secretary to the Post Office, A. C. Douglas, receiving a salary of £350. Telecommunications were in the hands of a separate department known as the Electric Telegraph, supervised by Francis Butler, who, for a salary of £400, discharged the triple responsibility of Director of Public Works, Inspector of Telegraphs and Director-General of Roads. The communication chain with the other Australian colonies can be deduced from the civil establishment with operators listed at Melton Mowbray, Oatlands, Ross, Campbell Town and Low Heads.

Law and Order

The civil establishment of 1869 lists a number of agencies concerned with law and order. These were: (i) Supreme Court, with a Chief Justice at £1,500 and a Puisne Judge at £1,200; (ii) Stipendiary Magistrates, eight in number and widely distributed; (iii) Law Officers of the Crown, including the Attorney General (a cabinet minister) at £700 and the Solicitor General at £300; (iv) Sheriff's Department; (v) Inspector of Police's Branch, with John Forster of Franklin's era in command and paid £600; (vi) Police Clerks' Branch; (vii) Gaol and House of Correction for Males, Hobart Town; (viii) a similar establishment for females; (ix) Penal Establishment, Launceston. Other legal work was carried out by the following agencies: (i) Lands' Titles and Registrar of Deeds Office; (ii) Commissioner of Insolvent Estates.

Charitable and Health Functions

A number of institutions in the civil establishment were obviously concerned with social welfare and caring for the sick, although the names of some have a most uncharitable ring in modern ears. They were: (i) Cascade

Pauper Establishment; (ii) Queen's Asylum for Destitute Children (its employment of a beadle at £70 recalls *Oliver Twist*); (iii) Brickfields Pauper Establishment for Males, Hobart Town; (iv) General Hospital, Hobart Town; (v) General Hospital, Launceston; (vi) Hospital for the Insane, New Norfolk. Medical men then did not command high salaries, the surgeons in charge of the Hobart and Launceston General Hospitals receiving only £300 each from government employment.

Colonial Secretary's Department

In the days before self-government, the Colonial Secretary had been the chief official under the Governor and it was natural that some of the early Premiers should have taken this portfolio after 1856. This was J. M. Wilson's position in 1869. The Chief Secretary of today derives from the Colonial Secretary of earlier times, and the modern Premier's and Chief Secretary's Department owes its origin to this practice of the early Premiers.

Customs Department

A major source of government revenue in 1869 was customs duties and the civil establishment included Collectors of Customs at Hobart and Launceston, both in receipt of £500; the sub-ports were listed as Leith, Torquay, Wynyard and Stanley. Officers in the department included landing waiters, warehouse keepers, tide waiters (in Launceston), weighers, markers, bonders and coopers. If some of these designations seem obscure, it is only within the last few years that the Commonwealth Department of Customs gave up using the title 'jerquer' to describe its own internal auditors.

Embryonic Functions

In 1869, there was an Inspector of Timber Licences at £150 but no Forestry Commission; there was a Mining Registrar at £100, and Gold Commissioners and Surveyors at £300, but no Mines Department. These officers all came under the Minister for Lands and Works. The Government Printing Establishment was directed by an officer who had been appointed in 1838 and who received a salary of £500; his only staff listed in the civil establishment was a messenger at £80, so he obviously had the power to recruit labour in the same way as any private employer. Education, so much a drain on revenue today, required the services of only five officers in the civil establishment; these included the Chief Inspector at £450 and an Inspector at £400 (the actual teachers themselves were excluded from the civil establishment). Sport and recreation were not forgotten and the Salmon Breeding Establishment, with a Superintendent at £250, was the ancestor of today's Inland Fisheries Commission.

(*The above article has been compiled exclusively from the 'Statistics of Tasmania, 1869'; the only information not contained there is the fact that J. M. Wilson was Premier.*)

The Government of 1969

The system of responsible government requires that the executive power of the State shall be exercised by the Cabinet; in exercising this power, the Ministers of the Cabinet are held responsible for the actions and administration of government departments and other governmental authorities which have been created for three basic purposes: (i) to put into practice the laws made by the Parliament; (ii) to give effect to the decisions of the Ministry; and (iii) to advise the Ministry on matters of policy.

The next section lists the departments and authorities under the various Ministers but the allocation of responsibility is subject to change and Cabinet has the power to vary it at any time. A detailed account of the work of the

various departments and authorities appeared in the *Year Books* for 1967 and 1968. Where a chapter reference is given, the reader will know that data on the department or authority appear elsewhere in this volume.

Premier, Treasurer and Minister for Mines (a)

| | |
|---|--|
| Premier's and Chief Secretary's Dept The Hydro-Electric Commission (Ch. 8) Treasury Dept (Ch. 11) Supply and Tender Dept | Government Printing Office Dept of Mines (Ch. 7) Government Insurance Office |
|---|--|

Attorney General and Deputy Premier

| | |
|---|--|
| Attorney General's Dept Solicitor General's Dept Supreme Court and Sheriff's Dept (Ch. 9) Magistracy Dept and Court of Requests (Ch. 9) Lands Titles and Registry of Deeds Dept | Parliamentary Draftsman's Dept Public Trust Office Registrar General's Dept (Ch. 5) Prisons Dept (Ch. 9) Directorate of Industrial Development and Trade (Ch. 8) |
|---|--|

Minister for Education

| |
|------------------------------|
| Education Department (Ch. 9) |
|------------------------------|

Minister for Lands and Works

| | |
|--|--|
| Dept of Public Works (Ch. 12) Dept of Lands and Surveys Rivers and Water Supply Commission (Ch. 4) Metropolitan Water Board (Ch. 4) | Dept of Film Production Town and Country Planning Commission Local Government Office |
|--|--|

Chief Secretary

| | |
|--|---|
| Audit Dept Public Service Commissioner's Dept Electoral Dept (Ch. 3) Dept of Labour and Industry (Ch. 10) Public Service Tribunal Dept (Ch. 10) Tasmanian Grain Elevators Board | Social Welfare Dept (Ch. 9) The State Library Fire Brigades Commission (Ch. 9) Rural Fires Board (Ch. 9) Racing Commission (Ch. 11) Miners Pensions Board (Ch. 11) |
|--|---|

Minister for Agriculture, Tourists and Immigration

| | |
|--|--|
| Dept of Agriculture (Ch. 6) Sea Fisheries Division (Ch. 7) Inland Fisheries Commission (Ch. 7) Animals and Birds Protection Board (Ch. 2) | Tourist and Immigration Dept Agricultural Bank of Tasmania (Land settlement function) (Ch. 6) |
|--|--|

Minister for Housing and Forests

| | |
|---|---|
| Housing Dept (Ch. 9) Forestry Dept (Ch. 7) | Agricultural Bank of Tasmania (Housing function) (Ch. 9) |
|---|---|

Minister for Transport and Police

| | |
|--|--|
| The Transport Commission (Ch. 12) Metropolitan Transport Trust (Ch. 12) | Police Dept (Ch. 9) Licensing Court (Ch. 9) |
|--|--|

Minister for Health

| | |
|---------------------------------|---|
| Dept of Health Services (Ch. 9) | Mental Health Services Commission (Ch. 9) |
|---------------------------------|---|

(a) The Supply and Tender Department, the Government Printing Office and the Government Insurance Office are listed as falling within the responsibility of the Treasurer but, by arrangement, they have been under the ministerial control of the Deputy Premier.

Chapter 4

LOCAL GOVERNMENT

GENERAL DESCRIPTION

Historical

Introduction

In Tasmania, the functions of local government are more restricted than in some other countries, due to the State Government taking direct responsibility for important services such as the police, education, housing, public transport, etc. This peculiarity is not confined to Tasmania and is encountered in the other Australian States, where central control is exercised over functions often delegated to local government authorities in overseas countries; the origin of this tendency probably lies in early colonial history when the continent was virtually empty but the apparatus of government existed at each of the new coastal settlements (Sydney, Hobart, Perth, Melbourne, Adelaide, and Brisbane, in order of age). In the Australian situation, strong central administrations came first and local government was a much later growth, the initiative for its creation often coming from the central administration itself in the respective colonies.

The development of local government in Tasmania falls into three distinct phases:

Hobart and Launceston

Hobart Town was granted elected commissioners in 1846, and under an Act of 1852, both Hobart and Launceston were given elected municipal councils. In 1857 the City of Hobart was incorporated, as was the Town of Launceston a year later. Launceston was proclaimed a city in 1888. For the next 76 years, these were the only two cities in the State, but in 1964 the number was increased to three when Glenorchy was granted city status.

The form of local government in Hobart and Launceston is governed by separate corporation Acts for each authority; in the case of Glenorchy, however, its operation as a city is provided for in the *Local Government Act 1962*.

Rest of State before 1906

Prior to the passing of the *Local Government Act 1906*, there was a great variety of elected Boards, Trusts, etc. in Tasmania, each in control of a district for certain specified objects, but they were all abolished by that Act. The principal local authorities were as follows:

Road Districts: The main legislation was the *Roads Act 1840*, the *Cross and Bye Roads Act 1851* and the *Main Roads Act 1880*. The general effect was to partition the State into districts and to set up elected bodies of trustees whose responsibility was confined to roads. In 1907, the last year in which the road trusts operated, there were 105 in existence.

Rural Municipalities: Under the *Rural Municipalities Act 1858*, any town, electoral, police or road district could be proclaimed a rural municipality with a council elected by the ratepayers. By 1865, 18 rural municipalities had been

constituted and the whole State (excluding Hobart, Launceston and Tasman Peninsula) was divided into 30 areas, each to be a municipal district; this plan for the future did not make much progress for in 1907, the last year in which rural municipalities operated, there were only 19 in existence.

Town Boards: Under the *Town Boards Act* 1884, the Governor could constitute a town, provided that it was not situated within the boundaries of a rural municipality. Trustees elected by the ratepayers exercised the provisions of the *Police Act* with regard to the health and improvement of towns, and in 1885 every town was declared to be a road district. In 1907, the last year of operation of town boards, there were 23 in existence.

Other Authorities: The types of local authority described in the previous sections by no means cover the complete field. Examples of other authorities included fruit boards, rabbit trusts, boards of health, boards of works, recreation ground trusts and school boards. The general picture, to say the least, was one of complexity and confusion; the main need was obviously a reduction in the number of separate authorities and the creation of municipalities with responsibility for *all* local government functions in their respective areas. A simplification along these lines was achieved by the *Local Government Act* 1906.

Rest of State after 1906

At present, local government functions throughout the State, the relevant bodies being the Hobart, Launceston and Glenorchy city corporations and 46 municipalities. The genesis of this framework is found in the *Local Government Act* 1906 under which a commission was appointed to divide the State into not more than 60 districts and to subdivide each district into not less than three nor more than five wards, each ward including as nearly as practicable an equal rateable area. The Commissioners were empowered to adjust the boundaries of adjoining municipalities, provided that in so dividing the State any town might be deemed to be included or excluded from such boundaries. The cities (at that time, Hobart and Launceston) were not to be included, and were exempt from the provisions of the Act.

The Commissioners, in terms of the Act, divided the State into 49 districts but the later absorption of the municipalities of Queenborough and New Town into the City of Hobart reduced the number to 47; the granting of city status to Glenorchy in 1964 resulted in the present total of 46. When the Commissioners deliberated after the passing of the Act of 1906, the population of the State was under 190,000 and their decision to create 49 districts may seem somewhat extravagant. But in 1906, the motor car was still a novelty, roads were poor and the creation of fewer but larger districts would have made it extremely difficult for the elected councillors to meet with any regularity, or for municipal inspectors, etc. to travel in their area of supervision. In short, the districts were designed with the horse as the limiting factor.

Prior to the passing of the Act in 1906, the State had been split up into districts of different kinds, each controlled for a specific purpose by a Board, Trust or Council. The effect of the Act was to abolish all the separate districts as well as the rural municipalities and town boards and to set up new authorities, uniformly constituted and exercising similar functions.

Since the Act of 1906, there has come into effect a large body of legislation affecting local government and there has been some widening of function. Accordingly a new consolidating Act, the *Local Government Act* 1962, was passed and is now in operation.

City of Hobart*Description*

The City of Hobart ($42^{\circ}54'S$; $147^{\circ}21'E$) is the seat of the State Government and capital of the State of Tasmania. Founded in 1804, Hobart is the second oldest capital city in Australia.

The population of the City of Hobart was 53,257 and of the Hobart Metropolitan Area 119,469 at the Census of 30 June 1966. Further detailed information on the population centred on Hobart is contained in Chapter 5, 'Demography'.

Hobart City, covering 30.8 square miles, is built on the plains and foothills below Mt Wellington (4,166 feet) on the west, and with the River Derwent on the east. The city has a first rate deep sea port where, during World War II, ships of up to 50,600 tons berthed without assistance. The eight mile road to the summit of Mt Wellington passes through an enormous natural park which is the source of part of the city's water supply. Hobart has a mild climate, and its attractions include its mountain, picturesque harbour, broad four-lane-bridged river, early colonial architecture, the Queen's Domain and nearby beaches.

Hobart City Council

The present council consists of 12 aldermen, including the Lord Mayor and Deputy; elections are held every two years when six aldermen retire. The Lord Mayor and Deputy Lord Mayor are elected by the ratepayers at each biennial election. Candidates do not stand for wards, and all ratepayers can vote for the filling of vacancies. Elections were held in June 1964, 1966, 1968, etc. An amendment to the *Hobart Corporation Act* in 1967 required electors to vote for at least six candidates in choosing aldermen; previously an elector could cast a valid vote even if he only chose one candidate (although there were six vacancies to fill).

Historical Development

In 1846, Hobart was divided into five wards, each electing three commissioners to deal with lighting, draining and paving; an elected municipal council was established in 1852 and, in 1857, Hobart Town was proclaimed a city. Its graceful Town Hall was completed in 1866. The city was enlarged by the absorption of Glebe Town, Mt Stuart, Wellington, Queenborough and New Town between 1907 and 1920. The number of aldermen was last varied in 1934 (to 12), the year in which the title Lord Mayor was bestowed by Royal Command.

*Description***City of Launceston**

Launceston owes its origin to Lieutenant-Colonel Paterson who made a settlement lower down the Tamar in 1804 but moved upstream in 1806 to seek better land. The 10.9 square mile city surrounds the source of the Tamar River where it is formed by the confluence of the North Esk and South Esk Rivers. The Tamar is navigable along its 42 miles to Bass Strait. There are interstate berths in the city but the deepwater berths are downstream at Bell Bay, Beauty Point and Inspection Head, all within seven miles of the entrance to the Tamar.

The population of the City of Launceston at the time of the Census of 30 June 1966 was 37,217. For statistical purposes Launceston is grouped with suburban portions of neighbouring municipalities to form 'Urban Launceston', population 60,456. An extensive explanation of 'Urban Launceston' and the statistical concept involved will be found in Chapter 5, 'Demography'.

The city is well endowed with parks and gardens. One of the best known is the First Basin Reserve through which the South Esk River flows in Cataract Gorge, providing a spectacle in flood-time. In common with Hobart, Launceston has many well preserved examples of colonial architecture.

Because of its position, Launceston is the focal point for the State's transport and communication networks. Launceston has been described as the 'capital of the North', and has numerous retail, cultural, governmental and judicial associations with northern and north-eastern Tasmania.

Launceston City Council

The council consists of nine aldermen including the Mayor. The Mayor is chosen each November by the aldermen. Elections are held each year when the three aldermen who have been in office for three years retire; they may stand for re-election if nominated. All property owners and occupiers, their spouses, and ex-servicemen residents are entitled to vote.

Historical Development

The first seven-member council was elected in 1853 and in 1858 the Town of Launceston was incorporated under the title of 'the Mayor, Aldermen and Burgesses of the Town of Launceston'. It was proclaimed a city in 1888 and was enlarged in 1907 by absorbing the towns of Invermay and Trevallyn. Its present form of local government is provided for in the *Launceston Corporation Act* 1963 as amended.

City of Glenorchy

Description

The relatively new City of Glenorchy (46 square miles), like the City of Hobart (31 square miles), is bounded on the east by the Derwent estuary, and on the west by a chain of steep hills and mountains. The built-up areas of the two cities meet at New Town Creek and, from this boundary, Glenorchy stretches north to Granton near the Bridgewater causeway. In terms of environment and scenic beauty, Hobart and Glenorchy have much in common, the younger city being a northern extension of the older.

In 1946, Glenorchy's population was only 14,000 persons but, by the Census of 30 June 1966, this had grown to 39,053 persons and now exceeds 40,000. In the same post-war period, the populations of Hobart and Launceston virtually remained static (in 1966, Launceston's was 37,217 and Hobart's 53,257). For statistical purposes, the densely settled portions of Glenorchy are grouped with similar contiguous parts of Hobart and its suburbs to form the Hobart Metropolitan Area (population 119,469 at the Census of 30 June 1966).

Glenorchy tends to be regarded as a Hobart suburb because many workers in the older city have their homes in the younger. In fact, the flow is by no means in one direction since many of the south's major industries are located in Glenorchy, notable examples being the Electrolytic Zinc Company's plant at Risdon and Cadbury Fry Pascall's plant at Claremont. The annual value of production recorded for factories in Glenorchy is more than double the Hobart equivalent, justifying the claim that it is the State's industrial 'capital'; its value of production in the factory sector exceeds that of any other local government area in Tasmania.

Because of the post-war growth of its population, and the creation of large-scale government housing estates within its borders, Glenorchy has had to provide improved roads and basic services (e.g. water and sewerage) much more rapidly than the authorities in most other areas. Amenities such as an

Olympic pool and a first class football stadium have been provided but the full scenic and recreational development of the area will probably not be achieved until the basic demands arising from rapid growth have been met. The assets provided by nature include wooded hills, mountains and a broad and winding estuary; this is an area where man has every opportunity to beautify his environment.

Glenorchy City Council

The City of Glenorchy is divided into three wards (east, west and central) and each ward is represented by four aldermen, whose period of office is four years. Half the aldermen retire at two-year intervals when elections are held (i.e. six aldermen are elected biennially). The Mayor and Deputy Mayor are also chosen by the ratepayers at the biennial elections, but only hold office for two years. Glenorchy became a city on 24 October 1964; prior to this date, each ward had had three councillors and the councillors had themselves elected a Warden.

Historical Development

The plains and hills of Glenorchy were first seen by Commander Hayes in 1793, and then by Bass and Flinders in 1798 when they took the *Norfolk* up the Derwent to the mouth of the Jordan. Settlers took up land there very soon after Lieutenant-Governor Collins selected the site of Hobart in 1804, and O'Briens Bridge on the Hobart-Launceston road keeps alive the memory of one pioneer. John Pascoe Fawkner, one of the later co-founders of Melbourne, lived at a cottage at Claremont in the 1820s and this relic was not demolished until the 1950s. Standing in a valley on Montrose Road is the home of Martin Cash, the bushranger, who escaped the death penalty to become a respectable citizen; in the early 1960s it was the residence of a professor of economics. Other homes of early settlers also remain.

The *Rural Municipalities Act* 1858 offered the chance of local self-government to the district but a battle of petition and counter-petition began, with Glenorchy residents opposed to those of New Town over the 'grey' area which lay between the two localities. Glenorchy won and an order of the Governor-in-Council of 4 April 1864 defined the northern and southern boundaries of the newly-created rural municipality in very much the same way as those of the present city. The municipal population then was only about 1,300 with just over 160 on the new municipal roll as owners or occupiers. This small electorate of potential ratepayers voted to select the first six-man council and the councillors chose their own Warden.

The council met in rented premises and it was not until the 1890s that it built Council Chambers on the edge of the main Hobart-Launceston road. These were demolished to make way for a handsome administrative centre, officially opened in 1963. The new premises lie well back from the road and are seen in a setting of lawns and gardens.

After the passing of the *Local Government Act* 1906, the three-ward system (described in the previous section) was introduced. Glenorchy enjoyed local self-government until December 1936 when its accumulating financial difficulties forced the Government to intervene; the councillors were replaced by an appointed three-man Commission and this body managed affairs until 1942 when a new council was elected.

The *Local Government Act* 1962 came into operation on 1 January 1964 and Glenorchy, because its population exceeded 20,000 in the five-year period specified in the Act, had already lodged a petition seeking city status. It became a city on 24 October 1964. Almost exactly a year later (22 October 1965), the

Municipal Commission issued its report, recommending *inter alia* that the densely settled parts of Glenorchy should be incorporated in a new city to be known as Greater Hobart. The report of the Commission has not been implemented due to legal objections and other delays (it affects many local government areas besides Glenorchy); the Commission is not yet in a position to make its final recommendation to the Governor. In the meanwhile, the fate of the new City of Glenorchy hangs in the balance.

Local Government—Present Organisation

Authority and Functions

The authority for and the forms of local government are prescribed entirely by State legislation and such legislation has largely been consolidated in the *Local Government Act* 1962. Hobart and Launceston cities operate under their own separate corporation Acts but the other authorities, including the City of Glenorchy, operate under the Act of 1962.

The functions of the municipalities are set out in broad general terms in Section 176 of the *Local Government Act* as:

'A Municipality: (a) may for the welfare and good government of its district and the inhabitants thereof: (i) make by-laws; (ii) undertake, make and maintain works, buildings and services; and (iii) order and dispose the common affairs of its members; and (b) shall cause the Queen's peace to be kept and maintained within its districts.'

Particular authority is given by Section 180 for a council clerk to be a Deputy Clerk of the Peace, Registrar of the Court of General Sessions and Clerk of Petty Sessions in his municipality.

Administration of Justice

This responsibility of the municipality to administer the lower courts of justice is confined to Tasmania and it would appear to be a carryover from the very early days of local government when the municipality was required to provide the police force as well. In all other States, the administration is in the hands of a State department. The practice here would now appear to be continued by reasons of expediency. (It should be noted that the process of removing this function from the municipalities has already commenced because the lower courts in the cities of Hobart and Glenorchy and the municipalities of Clarence and Kingborough are administered by the State. It should also be noted that where municipalities administer the courts, they receive all fines into their revenue, and in some instances the Council Clerks receive additional salary for this court work.) In addition, by certain Acts, the municipalities are given specific responsibilities, e.g. *Health Act*, *Local Courts Act*, etc.

Electors

The electors are natural born or naturalised British subjects who either:

- (a) own land within the municipality;
- (b) occupy land within the municipality;
- (c) being neither owner nor occupier, are spouses of such owners or occupiers, and are enrolled as voters for an Assembly division;
- (d) being neither owner nor occupier, are discharged servicemen.

Generally speaking, but with unexpectedly complicated modifications where land is shared, etc., owner-electors and occupier-electors have each from one to four votes depending upon the annual value of the land. Each spouse-elector and ex-service elector has one vote.

A municipality may be divided into three, four or five wards or be undivided. If the former, the electors elect representatives for their own ward; if the latter, the election is for the whole council.

Councillors

A councillor must be an elector of and either reside in, or carry on business in, the municipality and he is subject to disqualification for certain breaches of conduct. He is elected for three years and one-third of the council retires each year. Councils may comprise 6, 9, 12 or 15 councillors. Councils annually elect their Warden, Deputy Warden and Treasurer. (The electors of the City of Hobart elect the Lord Mayor and in Glenorchy, the electors elect the Mayor.) The office of Warden is comparable with that of the Mayor of a town or the President of a shire in other States.

Government Intervention

For any of a number of reasons, the Minister administering the *Local Government Act* may consider it necessary to recommend suspension of the elected councillors and the appointment of officers to carry on municipal government. In 1968, Kingborough, Clarence and Zeehan were already being administered by commissions appointed by the Governor and in March, the St Leonards councillors were dismissed and an administrator appointed. Provision exists under the Act for the restoration of elected councils, subject to certain conditions being satisfied.

Cities, Municipalities and Towns

In Tasmania there are two categories only: a municipality or a city. The Act provides for the establishment of towns and indicates requirements before such towns are proclaimed, but these are not municipal administrative units. It would seem that the only reason for the proclamation of an area as a town is to bring into action certain provisions relating to rating and to building requirements. Before a municipality can petition for a town to become a city, the town must have had, for five years before the petition, a population of not less than 20,000.

Other than this population requirement for a city, there are no provisions such as exist in some of the other States and in Canada for enlarging or diminishing the status of municipalities to accord with increasing or decreasing population.

Sources of Revenue

There are four main sources of revenue, namely rates, Government grants, business undertakings and services. The rates are levied at so much in the dollar on the assessed annual value without any fixed maximum. The amount of rates paid is, generally speaking, unequal to the cost of supplying the services which have, in the last thirty years, increased considerably in both range and expense. The Government grants are a recognised means of increasing the revenue of municipalities.

The municipalities are unable to collect any rates for land owned by the Crown but where services are provided, the Crown does pay for such services. Grants and subsidies are made, generally speaking, to assist the municipalities to meet the overall costs of municipal government and sometimes the grant is made to assist in a particular project. Grants are sometimes made to induce the councils to undertake the provision of certain services or to develop those services. Grants may also be made in order to assist in paying the costs of particular services which are shared by two or more adjoining municipalities. Earnings from business undertakings include charges for the supply of

water and for the use of abattoirs. Some of these businesses show a small profit but, in most cases, the fees demanded are usually only just sufficient to cover the cost of providing the services.

In the matter of water supply, where a number of local government areas could be served from a common source, the State Government did not consider a system of individual grants adequate and created two statutory authorities to act as 'wholesalers', the affected local government authorities acting as 'retailers'. This development is described later in the chapter under 'Water Supply and Sewerage'.

Municipal Commission

Provision was also made in the *Local Government Act* 1962 for the appointment of a commission, to be called the Municipal Commission, to hold office for a period of five years. The prime function of the Commission was to inquire into and report to the Governor not later than December 1965:

- (i) whether any existing municipality had insufficient financial resources for the proper performance of its functions and, if so, what re-arrangements were best for strengthening or disposing of it;
- (ii) whether any town had boundaries substantially different from those of the actual town and, if so, what ought the boundaries to be;
- (iii) on the division of the State into counties and how that division might best be brought into conformity with the Act or subparagraph (iiia) and, if so, what special powers it should have in what municipalities and whether any of those municipalities should be reduced in status;
- (iiia) on the division of the State into municipalities and whether any and, if so, what changes should be made by the enlargement and contraction of municipal boundaries and the creation and abolition of municipalities, by reason of changes in population, industry (primary and secondary), means of communication and transport, and urban development, and
- (iv) whether the establishment of the county council was a reasonable alternative to a recommendation under subparagraph (i).

On completion of its report, the Commission is required from time to time as directed by the Governor to inquire into and report on similar questions of amalgamation, abolition, etc. affecting municipalities.

REPORT OF MUNICIPAL COMMISSION

Main Recommendations

On 22 October 1965, the Municipal Commission issued, in the one publication, seven reports containing, as its principal recommendations, proposals for a reduction in the number of local government authorities from 49 to 20. Since the recommendations involve the partition of some existing areas, this terminology is used in the following summary table:

- (U) the urban portion of a local government area adjacent to Hobart or Launceston;
- (C) the non-urban portion of a local government area adjacent to Hobart or Launceston;
- (P) a fraction of any local government area other than those adjacent to Hobart and Launceston.

Changes Recommended by Municipal Commission

| Local Government Bodies Recommended | Description of Constituent Parts (In Terms of Present Cities and Municipalities) |
|-------------------------------------|--|
| Greater Hobart (City) .. | Hobart; Glenorchy (U); Clarence (U); Kingborough (U). |
| Municipality—'A' .. | Kingborough (C); Esperance; Huon; Port Cygnet; Bruny. |
| 'B' .. | Clarence (C); Spring Bay (P); Richmond; Sorell; Oatlands (P); Tasman. |
| 'C' .. | New Norfolk; Hamilton; Glenorchy (C). |
| Greater Launceston (City) .. | Launceston; Beaconsfield (U); Westbury (U); St Leonards (U); Lilydale (U); Evandale (U). |
| Municipality—'D' .. | Beaconsfield (C); Lilydale (C); George Town. |
| 'E' .. | Westbury (C); Deloraine. |
| 'F' .. | Evandale (C); St Leonards (C); Longford. |
| King Island .. | King Island (No change). |
| Flinders .. | Flinders (No change). |
| Circular Head .. | Circular Head (P). |
| Burnie .. | Burnie (No change). |
| 'G' .. | Circular Head (P); Wynyard; Waratah; Zeehan (P). |
| 'H' .. | Kentish (P); Ulverstone (P); Penguin. |
| 'I' .. | Kentish (P); Ulverstone (P); Devonport; Latrobe. |
| 'J' .. | Scottsdale, Ringarooma; Portland (P). |
| 'K' .. | Portland (P); Fingal; Glamorgan. |
| 'L' .. | Queenstown, Gormanston, Strahan, Zeehan (P). |
| 'M' .. | Bothwell (P); Campbell Town; Ross (P). |
| 'N' .. | Green Ponds; Bothwell (P); Brighton; Spring Bay (P); Ross (P); Oatlands (P). |

Effect of Recommendations

As indicated in the previous table, formation of the 20 recommended new administrative authorities involves the partition of some existing municipalities and cities; the number so affected is 17. In some cases, e.g. Spring Bay, Oatlands and Ross, the areas to be excised are extremely small and merely correspond with properties which are illogically partitioned by existing boundaries. In the case of Portland, the recommended change will have the effect of bringing under one authority a township at present partitioned between two authorities by a river boundary (Scamander River). The greatest changes, from the aspect of area, are proposed in relation to Bothwell (severance of the Great Lake Ward), Circular Head (severance of area east from the Detention River) and Kentish (severance of Wilmot ward).

The other major change affects Hobart and Launceston where it is envisaged that the urban areas of 'fringe' municipalities should be joined with the inner cities to form a Greater Hobart and a Greater Launceston.

The following table gives details of the recommended partitions:

Partitions Recommended by Municipal Commission

| Present Local Government Authority | Partition of Existing Areas | For Incorporation As Part Of: |
|------------------------------------|---|------------------------------------|
| Glenorchy .. | (i) Urban development along Derwent (ii) Balance of City of Glenorchy | Greater Hobart Municipality 'C' |
| Clarence .. | (i) Urban development, from Risdon Vale to Tranmere inclusive (ii) Balance of Municipality | Greater Hobart Municipality 'B' |

Partitions Recommended by Municipal Commission—continued

| Present Local Government Authority | Partition of Existing Areas | For Incorporation As Part Of: |
|------------------------------------|--|--|
| Kingborough .. | (i) Urban development known as Taroona, Kingston and Blackmans Bay (ii) Balance of Municipality | Greater Hobart Municipality 'A' |
| Spring Bay .. | (i) Small area on Little Swanport River on Oatlands municipal boundary (ii) Balance of Municipality | Municipality 'N' Municipality 'B' |
| Oatlands .. | (i) Small area near Woodsdale on Spring Bay municipal boundary (ii) Balance of Municipality | Municipality 'B' Municipality 'N' |
| Beaconsfield .. | (i) Urban development known as Riverside and Riverside North (ii) Balance of Municipality | Greater Launceston Municipality 'D' |
| Westbury .. | (i) Urban development known as Prospect Vale (ii) Balance of Municipality | Greater Launceston Municipality 'E' |
| St Leonards .. | (i) Urban development known as Kings Meadows, Youngtown, Prospect, Wavertree, Ravenswood and the town of St Leonards (ii) Balance of Municipality | Greater Launceston Municipality 'F' |
| Lilydale | (i) Urban development known as Newnham, Alanvale, Mayfield and Rocherlea (ii) Balance of Municipality | Greater Launceston Municipality 'D' |
| Evandale | (i) Small triangle, southern end of Franklin Village (ii) Balance of Municipality | Greater Launceston Municipality 'F' |
| Circular Head .. | (i) Large area west of Wynyard boundary back to Detention River (ii) Balance of Municipality | Municipality 'G' Circular Head |
| Zeehan | (i) Town of Corinna (ii) Balance of Municipality | Municipality 'G' Municipality 'L' |
| Kentish | (i) Wilmot Ward (ii) Balance of Municipality | Municipality 'H' Municipality 'I' |
| Ulverstone .. | (i) Small portion of Town of Forth (ii) Balance of Municipality | Municipality 'I' Municipality 'H' |
| Portland | (i) Scamander area north of Scamander River (ii) Balance of Municipality | Municipality 'K' Municipality 'J' |
| Bothwell .. | (i) Large area being the whole Great Lake Ward (ii) Balance of Municipality | Municipality 'M' Municipality 'N' |
| Ross | (i) Small area on Lake Crescent on Oatlands municipal boundary (ii) Balance of Municipality | Municipality 'N' Municipality 'M' |

Implementation of Recommendations

The Governor may give effect to the recommendations without further legislation (with one exception) once certain rights of appeal have been exercised by 'persons aggrieved', a term defined in the Act to include any municipality whose existence or boundaries are recommended to be ended or altered. The exception relates to the merging of Glenorchy into Greater Hobart; to effect this, new legislation would be required.

Thirty-nine municipalities have petitioned against the recommendations while three have counter-petitioned in favour; in addition, six opposing petitions have been lodged by other parties. The Act provides that the Commission shall hear evidence in support of the petitions and then recommend to the Governor either (i) the original plan as amended, or (ii) the original plan without amendment. The hearing of petitions commenced in September 1966, was interrupted by legal objections and finally commenced again in late March 1967. Nearly 20 petitions had been heard *with regard to fact* by July 1967, when the Commission itself suspended hearings to obtain legal rulings from the Supreme Court. A major point to be determined was whether the report itself was valid, since individual Commissioners had been absent at various stages of the enquiry. In March 1968, the Court ruled that the report was valid. Further legal objections were *sub judice* at 30 Nov. 1968.

PLANNING AUTHORITIES

Southern Metropolitan Master Planning Authority

Introduction

For statistical purposes, the Hobart Metropolitan Area is a densely settled region defined in Chapter 5, 'Demography'. For the purposes of the planning authority, metropolitan Hobart extends far beyond this area. The area for which the Authority is planning is best defined broadly as a triangle based on Pontville (Brighton Municipality), Snug (Kingborough Municipality) and Seven Mile Beach (Clarence Municipality). Such a triangle includes the Cities of Hobart and Glenorchy and also those parts of Brighton, Kingborough and Clarence municipalities which are likely, in the future, to experience urban expansion because of their proximity to Hobart.

For the purposes of this section, the triangular area just defined will be referred to as the 'S.M. area'.

Establishment of Authority

For purposes of local government administration, the urban area centred on Hobart is at present divided between four authorities: the municipalities and cities of Clarence, Kingborough, Hobart and Glenorchy; on the northern fringe of the area lies the Municipality of Brighton sharing the Derwent River as a boundary with Glenorchy. In 1954, a 'Hobart Metropolitan Planning Committee' adopted resolutions to the effect that a planning authority should be set up, that a 'Master Plan' should be prepared and that the plan should provide for an eventual population of 250,000 persons in the 'S.M. area'. (The Census population of Hobart and Suburbs in that year was 95,206 persons.) The five participating municipalities and cities previously named indicated that they were prepared to support the establishment of such an authority by striking a special townplanning rate of up to $\frac{1}{2}$ d. in the pound (0.208 cents in \$).

The necessary legislation was passed in 1957, staff was recruited and the first meeting of the Southern Metropolitan Master Planning Authority and its officers was held on 3 November 1958.

Representation and Finance

The *Local Government Act 1962* prescribes that each city shall have the right to appoint three representatives and each municipality two; though aldermen or councillors are not specifically prescribed, this type of representation is preferred by most councils. The Authority is also empowered to make contracts, accept trusts of properties for townplanning purposes and make by-laws for domestic purposes. By demand under its common seal, the Authority obtains from each constituent member council a contribution based on the annual value of all ratable property. The demand, however, is not to exceed $\frac{1}{2}$ d. in the pound (0.208 cents in \$), unless the Authority has the consent of all its constituent municipalities and cities.

Functions of the Authority

The main function of the Authority is the technical and legal preparation of a master plan for the prescribed area (the detailed planning nevertheless remaining the responsibility of each constituent municipality or city). The *Local Government Act 1962* (Section 744-2) defines the purpose of a master plan as follows:

'A master plan shall be made with regard for the present and probable future requirements of the area and may provide for:

- (a) communications;
- (b) areas the use of which is to be restricted in respect of purpose, or which are to remain unbuilt on;
- (c) public buildings, facilities and amenities; and
- (d) areas and sites for things and processes that would constitute nuisances if done among houses or offices'.

A master plan therefore involves the zoning of land and restricting its use for specific purposes such as housing, retail trade, factories or parks and reserves; it is also concerned with the problem of the highways and outlets that will become essential in the future.

A factor influencing the preparation of a master plan is the present and future execution of major works by instrumentalities other than those which constitute the Authority, examples being the Public Works Department, the Housing Department, the Health Department, the Transport Department and the Metropolitan Water Board. In working on a master plan, the Authority has to obtain and enlarge the co-operation between these various organisations by serving as a medium of mutual contact.

The preparation of a master plan requires extensive surveys and studies, the results of which are sometimes of general interest quite apart from their prime relevance to the master plan. Two examples will suffice: (i) a population forecast for the 'S.M. area'; (ii) mapmaking. Before the Authority's formation in 1958, there were no fully detailed maps available of any part of the 'S.M. area'. As the availability of maps for townplanning is very important, their production was started immediately. Practically the whole area now is covered with precise, up-to-date and contoured maps on scales of 1,000 feet and 400 feet to the inch. A similar but much more detailed set is also in preparation on a scale of 200 feet to the inch. Although designed primarily for townplanning, the maps are sold for a variety of other purposes.

Legal Procedure With Master Plan

After preparation of the draft master plan, the Town and Country Planning Commissioner gives provisional approval, thus allowing it to be put on statutory exhibition for three months while objections are recorded; objections may be lodged not only by ratepayers but also by the member-



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The Empress of Australia at berth in Hobart; 'Empress Towers' flats rise above old buildings in Battery Point

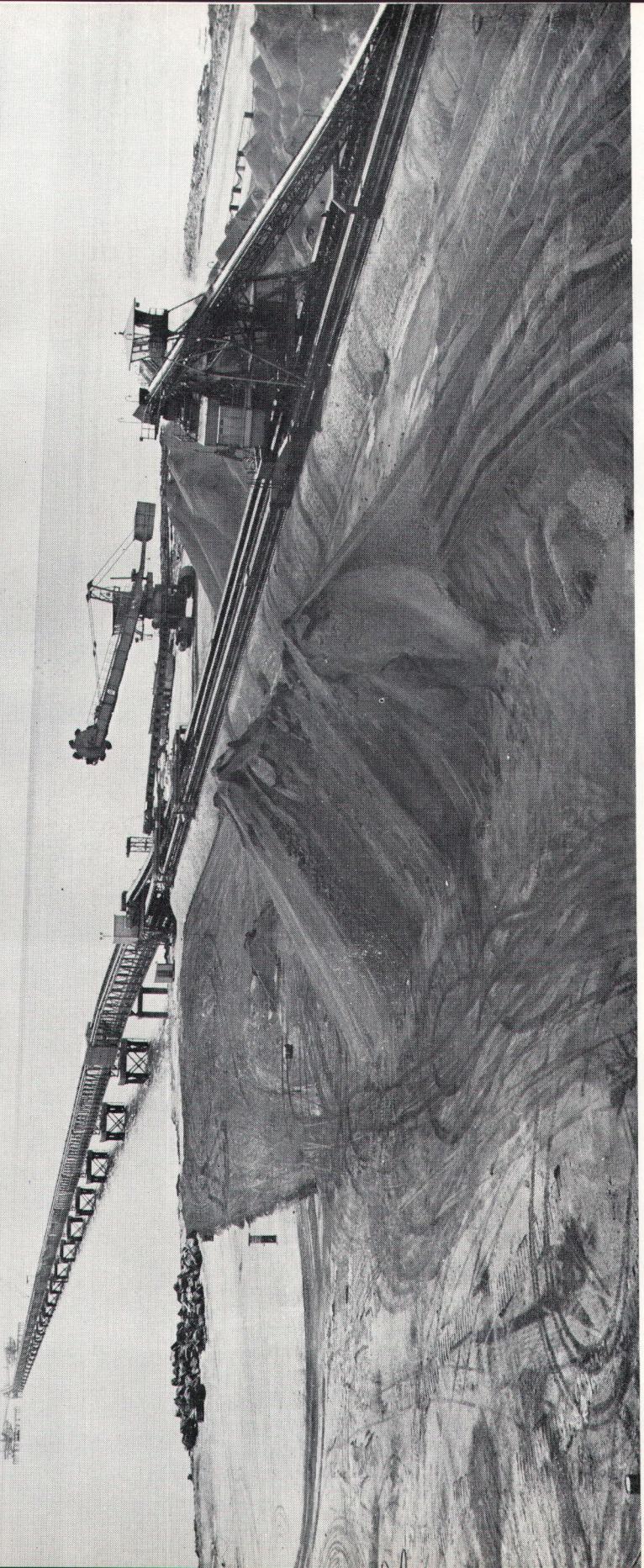
(Dept of Film Production)

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Kellys Steps, an old link from the Hobart waterfront to Battery Point

(Dept of Film Production)





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Port Latta with iron ore loading berths a mile out to sea

(The Examiner)

councils of the Authority. Having heard the objections, the Town and Country Planning Commissioner may order modifications and then approve the amended plan; final approval rests with the Minister for Local Government.

When finally approved and sealed, the plan comes into effect on a specified date and, from then onwards, all detailed planning within the prescribed area must conform to this master plan. It should be noted that all modifications to the master plan have to be treated as if they were a new plan, again requiring public exhibition and the recording of objections.

The Master Plan

The Master Plan 1962 was put up for statutory exhibition and objections were considered; the most powerful objection held that the provisions of the system of communications were not sufficiently specific, a point not disputed by the Authority which maintained that the transportation study essential to proper planning was beyond the financial resources of local government.

In 1963, the Authority withdrew its Master Plan 1962 and the State Government decided to carry most of the cost of a full transportation study, the results of which became available late in 1964. In the meantime, the Authority issued a 'Townplanning Policies Map 1964' which, although not having the legal standing of a master plan, was of value to member councils in their detailed planning and to other authorities concerned with development in the 'S.M. area'.

With the vital information relating to transport now available, the Authority set about revising the Master Plan and this is now well advanced.

The effect of implementing the transportation study proposals for a fully integrated system of freeways and expressways will be to facilitate movement around the central commercial area of Hobart, thus removing from this area much of the traffic which is causing congestion. The increased speed of movement in the 'S.M. area' will undoubtedly have a centrifugal effect on development and involve councils in high service costs; therefore firm town planning control must be exercised.

Pattern of Growth in 'S.M. Area'

The 'S.M. area' is, in effect, a valley hemmed in between rows of steep sloping mountains and hills and with the wide River Derwent in the bed of the valley. This topographical limitation set the stage for the ribbon development adopted by the first settlers in 1804 and by their successors. The flat banks along the foreshore of the Derwent saw the first development which spread north through New Town, Moonah, Glenorchy and Claremont. Late last century, a ferry started a Derwent service and from its landing jetties in Bellerive and Lindisfarne, housing began to spread along the eastern foreshore. This growth was accelerated by the bridging of the lower Derwent (with a floating bridge in 1943, replaced by a pier-based structure in 1964).

Residential development to the south of Hobart was almost halted after Sandy Bay had been built, the steep seaward slopes of Mt Nelson barring easy communications. After 1945, however, the increased use of cars altered this position and southern areas such as Tarroona and Kingston Beach began to grow.

By comparison with the pre-war population in the Hobart area, some of these developments were quite large. The Clarence Municipality on the eastern shore advanced its population from 5,000 in 1947 to 18,000 in 1957 and 31,000 in 1967. The Municipality of Glenorchy, north of Hobart, grew from 14,000 in 1947 to 29,000 in 1957 and 40,000 in 1967. South of Hobart the

Kingborough Municipality had a lesser rate of growth due to its more difficult links with the city. During the period 1947-1967, its population has grown from 5,800 to 10,300, most of the increase occurring in the suburban areas of Taroona and Kingston Beach.

By way of contrast, the City of Hobart is barely managing to hold its population of 53,000 persons. The very difficult and steep terrain on the fringe of the city (but still within its boundaries) makes subdivision of land a costly proposition while housing conditions in the older streets no longer meet the requirements of today's generation. With more easily developed land available in Glenorchy and Clarence, home builders have tended to look beyond the city limits. While Hobart proper has failed to record an increase as a residential centre in recent years, its inner area has grown as the main centre of general and commercial employment, although the industrial areas of Moonah and Glenorchy nearly match it. The transportation problems of the 'S.M. area' arise from the concentration of the principal places of employment in a relatively small area and the spread of residential areas not associated with any local centre of employment. (For example, most of the work-force resident in Clarence needs to cross the Derwent daily.)

The Highway System

The present programme of freeway construction makes use of the Queen's Domain as an oversize roundabout (or traffic circle). From this circle, three outlet roads will carry traffic on 4-lane freeways; the northern and eastern outlets have already been built, the southern is now under construction. A limitation of the northern outlet is that its main catchment area is on its western side, but foothills and existing buildings prevented a location further to the west. The eastern outlet, after passing over the Tasman Bridge, is met by various contributory road links giving quick access to popular suburbs such as Lindisfarne and Howrah.

The construction of the third freeway, the Southern Outlet Road, was started in the winter of 1964. This road, blasted out of solid dolerite for a considerable distance, is now nearing its completion and will open up a new area for development in the Kingston district.

The Hobart Area Transportation Study which examined these matters in greater detail, brought to public scrutiny the need for greatly increased expenditure in meeting traffic problems. The findings of the study are that metropolitan traffic will increase nearly 100 per cent during the next 20 years and that a number of major new roads will be required. The proposals resulting from the study are estimated as likely to cost \$50m spread over 20 years. The State Government has offered to meet most of the costs of the freeways and expressways while the councils will finance the balance.

Industrial Areas in the 'S.M. Area'

One of the most difficult town planning problems in the 'S.M. area' is that associated with industrial zoning. The mere designation in the master plan of certain land for industrial use is no guarantee that new industries will automatically come forward to take advantage of the land. Few, generally speaking, have adjusted their thinking to appreciate the latest trends in factory siting, industrial estates, site preparation and site development. However, the member-councils and the Authority have started a campaign to publicise the advantages of properly organised industrial sites. This objective can be viewed as supplementary to the efforts of the State Industrial Development Directorate which is endeavouring to attract more industry to the State.

The siting of industrial zones requires, in the main, reasonably flat ground with good foundations. In the 'S.M. area', this becomes a very real topographic problem as the flat land so necessary for general industry is slowly but steadily being used up for residential subdivisions. Local government authorities were unable to prevent this erosion and lacked the financial resources to undertake the major ventures into real estate necessary to ensure the availability of industrial sites. So completely has residential settlement used up suitable land near the heart of the city that the major proposed industrial zones have had to be located in Bridgewater, Margate, Rokeby and Cambridge (all some miles distant from central Hobart). However, the system of freeways proposed by the transportation study will render these more readily accessible.

FINANCE

Introduction

For many years, local government in Tasmania operated in 49 areas, comprising 47 municipalities and the cities of Hobart and Launceston. As from 24 October 1964, a third city, Glenorchy, came into being and the number of municipalities fell to 46. There are no unincorporated areas.

Local government finance statistics in Tasmania are compiled by the Bureau of Census and Statistics from the following sources:

1. *The 46 municipalities*: each municipality is required to submit annually to the Auditor General a 'Statement of Accounts' in pursuance of section 329 of the *Local Government Act* 1962; copies of these statements are made available to the Bureau. The 'Statements of Accounts' are compiled by the municipalities on a *receipts and payments* basis and two basic types of accounts are distinguished, namely revenue and loan accounts.

2. *The cities*: the cities of Hobart and Launceston submit annually to the Auditor General statements of accounts compiled on an *income and expenditure* basis; Glenorchy, however, still submits a municipal-type statement.

The term 'local government' is employed only in relation to the municipalities and city corporations. Details of *semi-government* authorities concerned with water supply appear in the last section of this chapter; such authorities provide bulk water but reticulation and sale to householders remains a local government function.

Value of Rateable Property

The principal source of revenue for local government authorities in Tasmania is the charging of rates on the annual value of property. For any property, the annual value is what it would bring annually if it were rented; the valuer is guided by actual rentals in operation at the time he makes his estimate.

Under the *Local Government Act* 1962, rates may be based on annual value, unimproved value (i.e. value of land only), the capital value (i.e. value of land plus improvements) or finally upon a composite value incorporating the unimproved value plus some arbitrary proportion of the value of improvements. In Tasmania, it has been usual for rates to be based on annual values despite isolated and unsuccessful campaigns in favour of taxing on unimproved value only. In estimating annual value, the valuer is taking into account not only the land but also the improvements (e.g. buildings) so there is, in actual

Local Government

fact, a close relation between total capital value of any property and its assessed annual value. The *Land Valuation Act* 1950 fixes a minimum relationship between annual value and capital value (4 per cent) but sets no maximum.

The following table shows the total value of all rateable properties in the State and gives individual details for local government authorities with total capital value exceeding \$20,000,000:

Value of Rateable Properties: Tasmania and Selected Municipalities and Cities (\$ million)

| Municipality or City | Year Reval- ued (a) | 1964-65 | | 1965-66 | | 1966-67 | |
|-----------------------------|------------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|
| | | Total Capital Value | Rateable Annual Value | Total Capital Value | Rateable Annual Value | Total Capital Value | Rateable Annual Value |
| Hobart (City) .. | 1963 | 277.80 | 17.00 | 281.29 | 17.21 | 286.47 | 17.43 |
| Launceston (City) .. | 1965 | 117.85 | 7.25 | 140.67 | 11.13 | 142.85 | 11.24 |
| Glenorchy (City) .. | 1962 | 106.42 | 6.30 | 112.39 | 6.69 | 116.47 | 6.84 |
| Clarence .. | 1964 | 80.49 | 3.83 | 83.19 | 4.26 | 87.15 | 4.46 |
| Burnie .. | 1965 | 52.42 | 2.96 | 61.44 | 3.96 | 63.32 | 4.06 |
| Devonport .. | 1962 | 48.29 | 2.81 | 51.02 | 3.00 | 52.97 | 3.08 |
| St Leonards .. | 1966 | 29.33 | 1.34 | 30.67 | 1.39 | 38.36 | 2.35 |
| New Norfolk .. | 1966 | 21.75 | 0.86 | 22.01 | 0.87 | 31.77 | 1.29 |
| Ulverstone .. | 1964 | 26.63 | 1.43 | 28.16 | 1.49 | 28.99 | 1.51 |
| Kingborough .. | 1961 | 26.64 | 1.30 | 27.16 | 1.28 | 27.63 | 1.31 |
| Beaconsfield .. | 1964 | 25.74 | 1.49 | 26.70 | 1.56 | 27.70 | 1.61 |
| Wynyard .. | 1961 | 22.51 | 1.11 | 23.53 | 1.15 | 23.89 | 1.19 |
| Circular Head .. | 1963 | 21.99 | 0.99 | 22.36 | 1.01 | 23.28 | 1.05 |
| Longford .. | 1963 | 20.90 | 1.01 | 21.02 | 1.01 | 21.12 | 1.02 |
| Remaining Municipalities .. | .. | 261.63 | 11.86 | 279.49 | 12.39 | 305.85 | 14.03 |
| Total Tasmania .. | .. | 1,140.40 | 61.54 | 1,211.10 | 68.40 | 1,277.82 | 72.47 |

(a) The year shown is the year of the latest complete revaluation.

System of Valuation

The valuation of property is carried out by a State Government authority, the Land Valuation Branch; its valuations form the basis for two distinct taxes: (i) land tax collected by the State on the basis of unimproved land values; (ii) rates collected by local government authorities on the basis of assessed annual values. Since it is impossible to value all the properties within the State in the course of a single year, valuation is carried out on a rotational basis, e.g. New Norfolk valued in 1957 and again in 1966; St Leonards valued in 1959 and again in 1966.

The table that follows shows the total value of rateable property over the last ten years:

**Total Rateable Property Valuation in Cities and Municipalities (a)
(\$ million)**

| Year | Unim- proved Value | Value of Improve- ments | Capital Value | Year | Unim- proved Value | Value of Improve- ments | Capital Value |
|------------|--------------------------|-------------------------------|------------------|------------|--------------------------|-------------------------------|------------------|
| 1957-58 .. | 140.6 | 413.4 | 554.0 | 1962-63 .. | 216.1 | 726.8 | 942.9 |
| 1958-59 .. | 164.6 | 488.8 | 653.4 | 1963-64 .. | 271.6 | 803.5 | 1,075.1 |
| 1959-60 .. | 179.0 | 560.4 | 739.4 | 1964-65 .. | 290.5 | 849.9 | 1,140.4 |
| 1960-61 .. | 186.0 | 622.2 | 808.2 | 1965-66 .. | 317.7 | 893.4 | 1,211.1 |
| 1961-62 .. | 193.6 | 676.5 | 870.1 | 1966-67 .. | 329.1 | 948.7 | 1,277.8 |

(a) As valued by State Valuation Branch.

In the period covered by the table (1957-58 to 1966-67), the following increases have been recorded: (i) in unimproved value, 134 per cent; (ii) in value of improvements, 129 per cent; (iii) in capital value, 131 per cent. The movement in capital values has been matched fairly closely by the movement in total rates collected, their increase in the same period being 136 per cent.

Total Receipts and Expenditure

The next table shows the total receipts and expenditure of Tasmanian municipalities and cities, the annual surplus or deficit and the balance of funds at the commencement of each year:

Local Government Authorities
Total Receipts and Expenditure—All Funds
 (\$'000)

| Year | Opening Balance (a) | Receipts | | | | Expenditure | | | Surplus (+) or Deficit (-) |
|---------|------------------------|----------------------|------------------|-------------------------|--------|---------------|------------------|--------|-------------------------------------|
| | | Loan Accounts (b) | Revenue Accounts | Special Accounts (c) | Total | Loan Accounts | Revenue Accounts | Total | |
| 1956-57 | 1,438 | 2,352 | 7,418 | -281 | 9,489 | 2,682 | 7,260 | 9,942 | - 453 |
| 1957-58 | 985 | 4,110 | 7,998 | -143 | 11,965 | 3,238 | 7,902 | 11,140 | + 825 |
| 1958-59 | 1,810 | 3,622 | 8,836 | + 99 | 12,557 | 3,542 | 8,836 | 12,378 | + 179 |
| 1959-60 | 1,989 | 5,308 | 9,782 | + 3 | 15,093 | 4,670 | 9,762 | 14,432 | + 661 |
| 1960-61 | 2,650 | 5,420 | 10,868 | -155 | 16,133 | 5,260 | 10,924 | 16,184 | - 51 |
| 1961-62 | 2,599 | 6,447 | 12,098 | + 39 | 18,584 | 5,658 | 11,778 | 17,436 | + 1,148 |
| 1962-63 | 3,747 | 6,873 | 13,764 | + 690 | 21,327 | 7,212 | 13,256 | 20,468 | + 859 |
| 1963-64 | 4,606 | 7,268 | 14,792 | + 242 | 22,302 | 7,431 | 14,654 | 22,085 | + 217 |
| 1964-65 | 4,823 | 7,273 | 16,250 | (d) | 23,522 | 6,354 | 16,176 | 22,530 | + 993 |
| 1965-66 | 5,816 | 7,579 | 17,395 | (d) | 24,974 | 8,342 | 17,085 | 25,426 | - 452 |
| 1966-67 | 5,369 | 7,680 | 18,793 | (d) | 26,473 | 8,091 | 18,267 | 26,358 | + 116 |

(a) Bank balances (less unpresented cheques), securities and cash on hand.

(b) Includes loan raisings, sales, capital grants received, etc.

(c) Net movement in special accounts.

(d) Special accounts analysed and included under loan or revenue accounts.

Rate Collections

There is considerable diversity in the types of rate imposed by individual local government authorities. In Hobart, virtually all properties are subject to the one consolidated rate and a similar position exists in Launceston; in most municipalities, however, the property holder, after being charged the basic general, road, light and health rates, is subject also to additional rates assessed according to the location of the property and the nature of the services provided (e.g. a fire brigade rate for properties which are close enough to enjoy fire protection, a water rate where the service is available). Property holders in a particular district may be called upon to pay a special rate for an improvement peculiar to the district (e.g. a reserves and recreation rate to finance a sports ground or a garbage rate to finance a disposal service).

It should be noted that the rates analysis in the next table does not dissect the ordinary rates of Hobart and Launceston cities; their ordinary rates are all entered as 'general' but their business undertaking rates are dissected under 'water' and 'sewerage'.

The following table shows details of the rates collected in Tasmania during a three-year period:

*Local Government***Rates Collected by Local Government Authorities
(\$'000)**

| Particulars | 1964-65 r | 1965-66 r | 1966-67 |
|--|---------------|---------------|---------------|
| Ordinary Rates (a)— | | | |
| General (a) | 3,434 | 3,671 | 3,968 |
| Light | 205 | 201 | 226 |
| Road | 2,345 | 2,684 | 3,049 |
| Health | 218 | 251 | 273 |
| Sanitary | 75 | 84 | 77 |
| Garbage | 130 | 117 | 137 |
| Reserves and Recreation | 382 | 471 | 523 |
| Halls | 56 | 55 | 72 |
| Library | 75 | 78 | 90 |
| Fire Brigade | 41 | 61 | 64 |
| Other | 79 | 75 | 105 |
| Total | 7,040 | 7,748 | 8,584 |
| Business Undertaking Rates— | | | |
| Water | 2,235 | 2,405 | 2,697 |
| Sewerage | 1,105 | 1,352 | 1,548 |
| Total | 3,340 | 3,757 | 4,245 |
| Grand Total.. | 10,380 | 11,505 | 12,829 |

(a) Where a single consolidated rate has been charged (as in Hobart and Launceston), the collection has been dissected between 'ordinary' and 'business undertakings' but the 'ordinary' component has been entered, without further analysis, as 'general'.

r Revised in accordance with (a) above.

Business Undertakings

In the preceding table a distinction is drawn between 'ordinary' rates and 'business undertaking' rates; a similar distinction will be found in the subsequent analysis of revenue and expenditure.

The classification 'business undertaking' is used in Australian local government finance statistics to include municipal tram and bus services, municipal electricity supply (generation or distribution), municipal water and sewerage schemes and municipal abattoirs, etc. In Tasmanian local government finance statistics, electricity supply ceased to appear as from 1948-49 (the Hydro-Electric Commission is now the sole supplier). Municipal tram and bus services ceased to appear as an item in 1955-56, the Metropolitan Transport Trust having acquired the city transport services operating in Hobart and Launceston. Consequently, the only activities under the heading of municipal 'business undertakings' in current Tasmanian statistics relate to water supply, sewerage and abattoirs.

Revenue of Local Government Authorities

The biggest proportion of local government revenue comes from rates (68 per cent in 1966-67) and these are a direct charge on owners of property.

Critics of this mode of raising revenue point out that in any city or municipality, there are wage-earners enjoying the services provided by the local authority but paying no rates because they own no property. It can be argued, of course, that tenants pay rates in a disguised form since their rents are probably adjusted to cover this charge upon the owner; this still leaves a residue of wage-earners in the community and they are neither tenants nor owners.

From time to time, suggestions have been made that some new form of municipal taxation should be levied on this non-contributing residue but no scheme has yet been implemented in Tasmania.

Other sources of local government revenue advocated by experts are direct Commonwealth grants but no progress has yet been made to this end.

After rates, the most important sources of revenue are: (i) Government grants and refunds; (ii) charges for public works and services. Among sources of revenue are listed 'council properties'; these include parks, recreation grounds, markets, halls, cemeteries, libraries, mechanical plant, etc. The next table shows, for a three-year period, the total annual revenue of all municipalities and cities:

Local Government Authorities
Revenue, Ordinary Services and Business Undertakings, Classified According to Source
(\$'000)

| Source of Revenue | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Ordinary Services— | | | |
| Rates | 7,040 | 7,748 | 8,584 |
| Licences | 87 | 100 | 129 |
| Total | 7,127 | 7,848 | 8,714 |
| Public Works and Services— | | | |
| Health, Sanitary and Garbage Services | 89 | 87 | 61 |
| Council Properties | 980 | 1,159 | 1,199 |
| Private Street Construction | 58 | 77 | 75 |
| Private Works | 384 | 383 | 318 |
| Other | 168 | 126 | 194 |
| Total | 1,679 | 1,832 | 1,847 |
| Government Grants and Refunds— | | | |
| Roads | 1,320 | 1,390 | 1,374 |
| Other | 315 | 204 | 267 |
| Total | 1,635 | 1,594 | 1,640 |
| Other Revenue (a) | 489 | 544 | 649 |
| Total Ordinary Services | 10,930 | 11,818 | 12,850 |
| Business Undertakings— | | | |
| Water Supply and Sewerage— | | | |
| Rates | 3,340 | 3,757 | 4,245 |
| Charges, Sales, etc. | 603 | 607 | 648 |
| Grants (Government) (b) | 827 | 714 | 507 |
| Total | 4,770 | 5,078 | 5,400 |
| Abattoirs— | | | |
| Charges, Sales, etc. | 550 | 499 | 543 |
| Total Business Undertakings | 5,320 | 5,577 | 5,943 |
| Grand Total—Revenue | 16,250 | 17,395 | 18,793 |

(a) Includes contributions to sinking funds and interest earned by such funds. Includes also net receipts of deposit and superannuation accounts.

(b) These figures understate actual receipts since some municipalities offset their grants against payments made to State regional water schemes.

Revenue, Summary

In the preceding table, the dissection between ordinary services and business undertakings prevents totals emerging for rates and for government grants; details for these items, in total, are shown in the summary which follows:

**Revenue, Ordinary Services and Business Undertakings
(\$'000)**

| Year | Total Rates | Licences | Total Govt Grants and Refunds | Business Undertakings (a) | Ordinary Municipal Services (b) | Other Revenue | Total Revenue |
|------------|-------------|----------|-------------------------------|---------------------------|---------------------------------|---------------|---------------|
| 1956-57 .. | 5,188 | 30 | 722 | 492 | 756 | 230 | 7,418 |
| 1957-58 .. | 5,434 | 30 | 852 | 582 | 816 | 284 | 7,998 |
| 1958-59 .. | 5,962 | 30 | 788 | 714 | 1,014 | 328 | 8,836 |
| 1959-60 .. | 6,622 | 58 | 950 | 870 | 918 | 364 | 9,782 |
| 1960-61 .. | 7,286 | 60 | 1,240 | 842 | 1,068 | 372 | 10,868 |
| 1961-62 .. | 8,084 | 66 | 1,690 | 924 | 1,064 | 270 | 12,098 |
| 1962-63 .. | 8,710 | 68 | 2,410 | 926 | 1,338 | 312 | 13,764 |
| 1963-64 .. | 9,411 | 77 | 2,443 | 1,016 | 1,346 | 499 | 14,792 |
| 1964-65 .. | 10,380 | 87 | 2,462 | 1,153 | 1,679 | 489 | 16,250 |
| 1965-66 .. | 11,505 | 100 | 2,308 | 1,106 | 1,832 | 544 | 17,395 |
| 1966-67 .. | 12,829 | 129 | 2,148 | 1,191 | 1,847 | 649 | 18,793 |

(a) Excludes rates and grants which are shown separately.

(b) Includes receipts from council properties, e.g. sports grounds, halls, etc.

Expenditure of Local Government Authorities

The following table shows, for a three-year period, annual expenditure by local government authorities from ordinary revenue and from the revenue of business undertakings:

**Local Government Authorities
Expenditure, Ordinary Services and Business Undertakings, Classified According to Service
(\$'000)**

| Expenditure On | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Ordinary Services— General Administration | 1,379 | 1,603 | 1,593 |
| Debt Services—Interest | 919 | 1,034 | 1,341 |
| Redemption | 1,065 | 1,101 | 1,229 |
| Paid to Sinking Funds | 146 | 133 | 152 |
| Total | 2,130 | 2,267 | 2,722 |
| Public Works and Services— Roads, Streets, Bridges | 4,027 | 4,375 | 4,429 |
| Health | 219 | 213 | 247 |
| Sanitary and Garbage Services | 407 | 426 | 493 |
| Street Lighting | 299 | 319 | 359 |
| Parks, Recreation Grounds, etc. | 805 | 768 | 976 |
| Other Council Properties | 933 | 907 | 973 |
| Other Services | 32 | 44 | 155 |
| Total | 6,722 | 7,052 | 7,632 |
| Grants | 355 | 352 | 368 |
| Other Expenditure (a) | 690 | 310 | (b) 96 |
| Total Ordinary Services | 11,278 | 11,585 | 12,411 |

Expenditure, Ordinary Services and Business Undertakings, Classified According to Service—continued
 (\$'000)

| Expenditure On | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| Business Undertakings— | | | |
| Water Supply and Sewerage— | | | |
| Working Expenses (c) | 2,147 | 2,547 | 2,760 |
| Interest | 1,260 | 1,382 | 1,524 |
| Redemption | 832 | 914 | 965 |
| Paid to Sinking Funds | 117 | 128 | 66 |
| Other | 148 | 124 | 61 |
| Total | 4,503 | 5,096 | 5,375 |
| Abattoirs— | | | |
| Working Expenses | 338 | 348 | 408 |
| Interest | 33 | 37 | 43 |
| Redemption | 23 | 19 | 22 |
| Paid to Sinking Funds | .. | .. | 7 |
| Total | 394 | 404 | 481 |
| Total Business Undertakings | 4,898 | 5,500 | 5,856 |
| Grand Total—Expenditure | 16,176 | 17,085 | 18,267 |

(a) Excludes expenditure from deposit and superannuation accounts, which are offset against receipts.

(b) Certain items previously included in 'other' have been classified according to function.

(c) These figures understate actual payments since some municipalities offset their payments to State regional water schemes against grants received from the State.

'Council properties' in the table includes, in the main, halls, markets, cemeteries and libraries. 'Roads, streets and bridges' includes road construction and maintenance, drainage, cleaning and watering streets, private street construction, private works, plant purchase and net plant maintenance costs.

Expenditure, Summary

Details of total interest and redemption payments appear below:

Expenditure, Ordinary Services and Business Undertakings
 (\$'000)

| Year | Adminis-tration | Loan Charges | | Ordinary Services (a) | | Business Undertak-ings (a) | Total |
|------------|-----------------|--------------|-------------|-------------------------|-------|----------------------------|------------|
| | | Interest | Redemp-tion | Roads, Streets, Bridges | Other | | |
| 1956-57 .. | 596 | 652 | 704 | 2,320 | 1,944 | 1,046 | 7,260 |
| 1957-58 .. | 706 | 722 | 816 | 2,434 | 1,906 | 1,320 | 7,902 |
| 1958-59 .. | 782 | 922 | 888 | 2,658 | 2,154 | 1,432 | 8,836 |
| 1959-60 .. | 884 | 1,096 | 1,000 | 2,914 | 2,168 | 1,700 | 9,762 |
| 1960-61 .. | 880 | 1,294 | 1,158 | 3,350 | 2,396 | 1,846 | 10,924 |
| 1961-62 .. | 910 | 1,526 | 1,276 | 3,620 | 2,404 | 2,042 | 11,778 |
| 1962-63 .. | 988 | 1,900 | 1,442 | 3,990 | 2,948 | 1,988 | 13,256 |
| 1963-64 .. | 1,183 | 2,069 | 1,652 | 4,160 | 3,236 | 2,354 | 14,654 |
| 1964-65 .. | 1,379 | 2,211 | 1,920 | 4,027 | 3,741 | 2,633 | (b) 16,176 |
| 1965-66 .. | 1,603 | 2,453 | 2,034 | 4,375 | 3,339 | 3,019 | (b) 17,085 |
| 1966-67 .. | 1,593 | 2,908 | 2,216 | 4,429 | 3,667 | 3,229 | (b) 18,267 |

(a) Excluding interest and redemption shown separately.

(b) Includes contributions to sinking fund not specified in the table: 1964-65, \$263,000; 1965-66, \$261,000; 1966-67, \$225,000. In earlier years similar contributions were eliminated from the analysis as contra items.

*Local Government***Loan Receipts**

At 30 June 1967, the aggregate debt of all local government authorities was \$57,611,465 of which only \$906,973 (i.e. 1.6 per cent) was in respect of loans received from the State Government. The principal Tasmanian sources of loans for local government authorities are banks, superannuation and other trust funds, insurance companies and, in the case of the cities, public issues. The amount that any local government authority can raise in a particular year is governed not only by the difficulty in finding willing lenders, but also by the fact that the approval of the State Treasury is required. Finally, under the *Local Government Act 1962*, total indebtedness must not exceed 10 times average annual income computed for the preceding three-year period.

The following table shows, for a three-year period, the receipts taken into the loan accounts of all local government authorities:

Local Government Authorities: Receipts Taken into Loan Account (\$'000)

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|--|--------------|--------------|--------------|
| Loan Raisings— | | | |
| For Ordinary Services | 3,535 | 3,727 | 3,602 |
| For Water and Sewerage | 2,682 | 2,780 | 3,369 |
| For Abattoirs | 20 | 5 | 10 |
| Total Raisings | 6,237 | 6,512 | 6,981 |
| Government Capital Grants | 817 | 867 | 455 |
| Offsets to Loan Expenditure (a) | 219 | 200 | 244 |
| Total Receipts | 7,273 | 7,579 | 7,680 |

(a) e.g. sales of surplus materials, refunds on containers, etc.

Loan Expenditure and Loan Debt

The next table shows, for a three-year period, details of expenditure from the loan accounts of all local government authorities; also the loan debt at the end of the period (in the matter of debt, Launceston City can report only three components: water; sewerage; and other):

Local Government Authorities: Annual Loan Expenditure and Loan Debt Classified According to Purpose (\$'000)

| Purpose | Annual Loan Expenditure | | | Loan Debt at 30 June 1967 |
|--|-------------------------|--------------|--------------|---------------------------------|
| | 1964-65 | 1965-66 | 1966-67 | |
| Water | 1,095 | 1,968 | 1,595 | 14,921 |
| Sewerage | 1,719 | 2,627 | 2,529 | 14,987 |
| Drainage | 182 | 171 | 242 | 1,327 |
| Roads, Bridges, Streets, Footpaths | 1,572 | 1,684 | 1,979 | 10,577 |
| Plant, Machinery, etc. | 215 | 200 | 190 | 760 |
| Council Property, including Halls | 502 | 883 | 813 | 4,819 |
| Recreation, including Parks and Gardens | 678 | 611 | 586 | 4,160 |
| Other | 390 | 198 | 155 | (a) 6,061 |
| Total | 6,354 | 8,342 | 8,091 | 57,611 |

(a) Includes \$4.33m, part of the debt of Launceston City; the balance of the city's debt is included in the water and sewerage totals above but not allocated to other items.

Loan Summary

The following table shows, in summary form, loan raisings, loan debt and sinking funds:

**Local Government Authorities: Loan Raisings, Loan Debt and Sinking Funds
(\$'000)**

| Year | Loan Raisings During Financial Year | | | Loan Debt at 30 June | | | Total of Sinking Funds at 30 June (c) |
|---------|-------------------------------------|------------------------|-------|----------------------|--------------------|--------|---------------------------------------|
| | From State Government (a) | From Other Sources (b) | Total | To State Government | To Other Creditors | Total | |
| 1956-57 | .. | 2,310 | 2,310 | 129 | 16,838 | 16,967 | 336 |
| 1957-58 | .. | 4,024 | 4,024 | 114 | 20,078 | 20,192 | 351 |
| 1958-59 | 43 | 3,642 | 3,685 | 144 | 22,835 | 22,979 | 388 |
| 1959-60 | 138 | 5,094 | 5,232 | 268 | 26,876 | 27,144 | 422 |
| 1960-61 | 269 | 5,010 | 5,279 | 524 | 30,763 | 31,287 | 473 |
| 1961-62 | 301 | 5,863 | 6,164 | 808 | 35,380 | 36,188 | 561 |
| 1962-63 | 116 | 5,209 | 5,325 | 853 | 38,989 | 39,842 | 662 |
| 1963-64 | 165 | 5,681 | 5,846 | 990 | 43,073 | 44,063 | 817 |
| 1964-65 | 9 | 6,228 | 6,237 | 932 | 47,436 | 48,368 | 849 |
| 1965-66 | 82 | 6,430 | 6,512 | 977 | 51,867 | 52,844 | 991 |
| 1966-67 | 21 | 6,960 | 6,981 | 907 | 56,704 | 57,611 | 1,206 |

(a) These advances were from the State Treasury direct, and exclude those from authorities such as the Housing Department and the Metropolitan Transport Trust.

(b) Includes advances from the Housing Department and the Metropolitan Transport Trust.

(c) Sinking funds maintained by municipalities and cities for debt redemption purposes.

Source of Loan Funds

It can be seen from the preceding table that the local government loan debt includes only a small liability in respect of advances made by the State Treasury. The proportion of total debt now owed to State authorities (but not directly to the Treasury) has increased somewhat, principally due to co-operation between individual municipalities and the State Housing Department. In planning the establishment of large housing estates, the Housing Department has been concerned with the provision of certain essential services (e.g. water and sewerage); where such services have required capital expenditure by a municipality, the Department has made some loan funds available.

Instalment Debentures

Much of the debt of the municipalities is in the form of instalment debentures which involve equal periodic payments (usually yearly or half-yearly); such payments are credited to redemption and interest in changing proportions, the accounting being the same as used to record home instalment purchase transactions.

Financial Statistics of Individual Local Government Authorities

In this chapter, local government finance statistics have been presented in total only; similar details for individual authorities are shown annually in the Tasmanian Office's bulletin, *Finance*. The following table shows, for each municipality and city: (i) rates collected; (ii) expenditure from loan and revenue accounts; (iii) balance of funds; (iv) loan debt.

Individual Municipalities and Cities: Financial Summary, 1966-67
 (\$'000)

| Municipality or City | Total Rates Collected | Expenditure | | Funds at 30-6-67 (a) | Loan Debt at 30-6-67 |
|----------------------|-----------------------------|------------------|---------------------|----------------------------|-------------------------|
| | | Loan Accounts | Revenue Accounts | | |
| Beaconsfield | 272.9 | 263.5 | 371.7 | 17.1 | 1,437.6 |
| Bothwell | 32.9 | 7.5 | 77.4 | 5.2 | 34.6 |
| Brighton | 43.7 | 15.9 | 109.4 | 31.4 | 115.0 |
| Bruny | 12.1 | .. | 40.4 | 11.2 | 12.2 |
| Burnie | 725.6 | 632.2 | 859.3 | 315.0 | 3,117.8 |
| Campbell Town | 69.9 | 81.4 | 119.7 | 41.2 | 254.7 |
| Circular Head | 207.8 | 70.3 | 256.6 | 131.2 | 293.8 |
| Clarence | 1,006.0 | 608.6 | 1,385.8 | 47.9 | 5,178.4 |
| Deloraine | 112.4 | 24.5 | 186.8 | 48.8 | 235.8 |
| Devonport | 579.6 | 618.4 | 914.4 | 17.7 | 3,603.5 |
| Esperance | 87.0 | 119.8 | 120.1 | 39.0 | 417.4 |
| Evandale | 45.2 | 42.3 | 85.7 | 83.2 | 123.8 |
| Fingal | 73.0 | 113.4 | 121.1 | (-) 7.2 | 273.5 |
| Flinders | 48.1 | 24.4 | 111.4 | 5.3 | 70.2 |
| George Town | 200.2 | 108.1 | 246.3 | 89.9 | 932.4 |
| Glamorgan | 45.4 | 30.6 | 66.7 | 0.6 | 177.3 |
| Glenorchy (City) | 1,275.7 | 769.9 | 1,589.1 | 41.5 | 6,625.7 |
| Gormanston | 12.5 | .. | 17.0 | 2.7 | 3.6 |
| Green Ponds | 24.5 | .. | 37.3 | 18.0 | 41.9 |
| Hamilton | 40.3 | 6.1 | 110.6 | (-) 1.8 | 97.1 |
| Hobart (City) | 2,764.1 | 1,280.8 | 3,593.1 | 1,943.3 | 13,227.9 |
| Huon | 103.4 | 8.4 | 171.4 | 54.5 | 347.2 |
| Kentish | 91.1 | 25.5 | 144.1 | 19.3 | 163.7 |
| Kingborough | 271.5 | 279.0 | 375.7 | 192.0 | 1,587.2 |
| King Island | 80.5 | 20.5 | 130.2 | 75.2 | 315.3 |
| Latrobe | 150.5 | 135.2 | 208.4 | 43.5 | 664.4 |
| Launceston (City) | 1,876.6 | 1,211.0 | 3,099.3 | 1,394.9 | 7,552.4 |
| Lilydale | 164.9 | 125.9 | 226.4 | 74.2 | 745.7 |
| Longford | 140.4 | 207.9 | 179.2 | 45.7 | 677.6 |
| New Norfolk | 203.3 | 22.0 | 255.3 | 90.3 | 637.5 |
| Oatlands | 80.8 | 18.4 | 124.2 | 23.2 | 147.3 |
| Penguin | 106.2 | 46.5 | 154.8 | 28.3 | 453.1 |
| Port Cygnet | 66.7 | 18.9 | 100.5 | 30.8 | 246.2 |
| Portland | 39.7 | 59.7 | 78.2 | 87.3 | 195.0 |
| Queenstown | 115.8 | 7.5 | 123.8 | 41.2 | 110.1 |
| Richmond | 47.9 | 2.4 | 101.1 | 10.7 | 141.2 |
| Ringarooma | 66.9 | 1.7 | 103.9 | 23.2 | 108.0 |
| Ross | 26.4 | 8.0 | 55.1 | 18.1 | 22.2 |
| St Leonards | 471.4 | 271.3 | 584.9 | 3.1 | 2,502.8 |
| Scottsdale | 90.7 | 16.4 | 167.2 | 21.6 | 341.3 |
| Sorell | 107.9 | 51.1 | 219.4 | 0.2 | 304.6 |
| Spring Bay | 35.0 | 12.3 | 58.2 | 10.7 | 101.1 |
| Strahan | 11.0 | 9.5 | 26.1 | 1.1 | 19.3 |
| Tasman | 18.1 | 3.5 | 48.3 | 0.4 | 5.6 |
| Ulverstone | 312.0 | 361.9 | 411.8 | 152.2 | 2,275.7 |
| Waratah | 7.3 | .. | 14.3 | 6.1 | .. |
| Westbury | 121.6 | 27.2 | 161.6 | 46.5 | 311.4 |
| Wynyard | 258.7 | 205.0 | 345.4 | 66.9 | 1,030.0 |
| Zeehan | 83.6 | 115.9 | 178.4 | 42.1 | 331.4 |
| Total | 12,828.8 | 8,090.6 | 18,266.9 | 5,484.2 | 57,611.5 |

(a) Value of bank balances (less unpresented cheques), securities and cash on hand. A minus sign (–) indicates a debit balance.

It will be seen from the previous table that the local government authorities collecting the greatest sums in rates were: (i) Hobart (\$2.76m); (ii) Launceston (\$1.88m); (iii) Glenorchy (\$1.28m); and (iv) Clarence (\$1.01m). The local government authorities with the greatest loan debts were (i) Hobart (\$13.23m); (ii) Launceston (\$7.55m); (iii) Glenorchy (\$6.63m); and (iv) Clarence (\$5.18m). The authorities collecting the smallest sums in rates were: (i) Waratah (\$7,300); (ii) Strahan (\$11,000); (iii) Bruny (\$12,100); (iv) Gormanston (\$12,500). The very wide range in the capacity of the 49 local government authorities to raise revenue, using boundaries which in many cases date back to 1906, was one of the factors advanced by the Municipal Commission when it made its 1965 report recommending the creation of 18 municipalities and two cities; amalgamation of existing authorities into larger units was seen as a method of solving this problem.

Employees of Local Government Authorities

The following table shows employees of local government authorities at 30 June 1967; the eleven authorities specified in descending order are those employing 40 or more. The range of employees of individual authorities extends from around 500 persons in Hobart and Launceston cities to as low as two persons in some of the minor municipalities. The number of employees is not a complete guide to the level of activity since much work is carried out by private contractors in some areas.

In the municipalities, the principal executive officer is known as the council clerk; in the cities, as the town clerk. The larger administrative units employ various categories of professional officer, such as civil engineers, architects, surveyors and accountants; in Hobart and Launceston cities, the complexity of local government is such that each employs a full-time legal officer.

Civil engineers are mainly concerned with the design and supervision of road works, and of water supply and sewerage schemes; architects play a part in the supervision of buildings constructed within the municipal area, the approval of the local authority being required before work can start. The professional officers are assisted, in some fields, by technicians, e.g. those who are experts in water testing and fluoridation techniques.

**Local Government Authorities: Persons Employed by Main Authorities
and in Total at 30 June 1967 (a)**

| Local Government Authority | General Administration | | All Other Services | | Total | | |
|----------------------------|------------------------|---------|--------------------|---------|-------|---------|---------|
| | Males | Females | Males | Females | Males | Females | Persons |
| Launceston (City) .. | 92 | 33 | 370 | 22 | 462 | 55 | 517 |
| Hobart (City) .. | 116 | 34 | 322 | 8 | 438 | 42 | 480 |
| Clarence .. | 38 | 16 | 113 | .. | 151 | 16 | 167 |
| Glenorchy (City) .. | 47 | 17 | 105 | 3 | 152 | 20 | 172 |
| Devonport .. | 26 | 10 | 119 | 4 | 145 | 14 | 159 |
| Burnie .. | 22 | 9 | 125 | .. | 147 | 9 | 156 |
| St Leonards .. | 12 | 8 | 47 | .. | 59 | 8 | 67 |
| Kingborough .. | 11 | 8 | 43 | .. | 54 | 8 | 62 |
| Ulverstone .. | 10 | 6 | 33 | .. | 43 | 6 | 49 |
| Wynyard .. | 5 | 3 | 46 | .. | 51 | 3 | 54 |
| New Norfolk .. | 5 | 2 | 36 | 1 | 41 | 3 | 44 |
| Other Municipalities .. | 101 | 49 | 418 | 5 | 519 | 54 | 573 |
| Total .. | 485 | 195 | 1,777 | 43 | 2,262 | 238 | 2,500 |

(a) Includes permanent and temporary employees but excludes part-time employees.

The next table shows total employees of local government authorities over a five-year period:

Local Government Authorities: Persons Employed (a) at 30 June

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------|---------|---------|---------|---------|---------|
| General Administration— | | | | | |
| Males | 363 | 383 | 386 | 451 | 485 |
| Females | 148 | 166 | 169 | 177 | 195 |
| Persons | 511 | 549 | 555 | 628 | 680 |
| All Other Services— | | | | | |
| Males | 1,733 | 1,727 | 1,691 | 1,749 | 1,777 |
| Females | 56 | 60 | 60 | 45 | 43 |
| Persons | 1,789 | 1,787 | 1,751 | 1,794 | 1,820 |
| Total— | | | | | |
| Males | 2,096 | 2,110 | 2,077 | 2,200 | 2,262 |
| Females | 204 | 226 | 229 | 222 | 238 |
| Persons | 2,300 | 2,336 | 2,306 | 2,422 | 2,500 |

(a) Includes permanent and temporary employees but excludes part-time employees.

WATER SUPPLY AND SEWERAGE

Introduction

Water supply and sewerage were once exclusively the responsibility of the cities and municipalities; two semi-government authorities now operate bulk supply schemes, piping water for distribution by the local government authorities in the Hobart and Launceston areas, and directly to certain industrial consumers. Details of these authorities follow.

Metropolitan Water Board

The overall control of water supply in Hobart, Clarence, Glenorchy and Kingborough is vested in the Metropolitan Water Board, but the four local government authorities retain primary responsibility for reticulation and sale to consumers. The Board has constructed a large pumping station at Bryn Estyn on the Derwent, pipeline capacity being 20m gallons per day. Before the Board came into operation in 1962, the four metropolitan local government authorities had their own supply schemes (e.g. Hobart supplied from Lake Fenton and Mount Wellington); these schemes still operate but the Board's pumping works based on the Derwent now give an assured supply. The eventual limiting factor will not be a shortage of water but simply the need to duplicate pumping and pipeline capacity.

The Board also controls the Southern Regional Water Supply Scheme drawing water from the Derwent, and originally constructed to supply Hobart's eastern shore suburbs (reticulation is still the responsibility of the local government authorities). On the eastern shore, the Board has now extended its service to the towns of Cambridge, Midway Point, Sorell, Seven Mile Beach, Lauderdale and Rokeby, whilst western shore extensions serve Margate, Snug and Howden. At Risdon Brook, an 800m gallon storage has been completed; the cost, including connections to Bellerive and Lindisfarne, was \$2.9m.

Under the *Metropolitan Water Board Act* 1961, the four metropolitan local government authorities no longer borrow money for water works, the Board now providing them with the necessary capital in the form of grants; the local authorities in turn are required to make revenue contributions to the Board. At 30 June 1967, the loan debt of the Board to the State Treasury was \$11.95m and, to other lenders, \$2.46m.

Financial Relationship

The relations between the Board and the four metropolitan local government authorities are summarised in the following table:

**Metropolitan Water Board—Income and Expenditure
(\$'000)**

| Particulars | 1965-66 | 1966-67 |
|---|---------|---------|
| INCOME | | |
| Municipal Contributions— | | |
| Hobart | 395 | 457 |
| Glenorchy | 324 | 359 |
| Clarence | 385 | 416 |
| Kingborough | 20 | 69 |
| Special Consumers | 222 | 225 |
| Direct Earnings, Southern Regional Scheme | 150 | 158 |
| Other Revenue | 5 | 8 |
| Total | 1,501 | 1,693 |
| EXPENDITURE | | |
| Re-imbursement of Working Expenses— | | |
| Hobart | 294 | 317 |
| Glenorchy | 213 | 221 |
| Clarence | 118 | 119 |
| Kingborough | 17 | 36 |
| Bulk Supply, Operation Costs | 200 | 263 |
| Administrative Expenses | 25 | 31 |
| Interest | 523 | 593 |
| Depreciation | 139 | 160 |
| Total | 1,529 | 1,738 |

Capital Expenditure

In 1966-67, the Board's capital expenditure was \$1,851,000, the chief items being: (i) \$882,000 on Risdon Brook Dam; (ii) \$592,000 advanced to the four local government authorities for construction of approved works and for the redemption and conversion of their water loans.

Rivers and Water Supply Commission

The Commission operates two regional schemes: (i) the North Esk Regional Water Supply, serving portion of the municipalities of Evandale, George Town, Lilydale, St Leonards and Westbury, and industrial users at Bell Bay; (ii) the West Tamar Water Supply, serving the west shore of the Tamar located in Beaconsfield Municipality. The local government authorities retain primary responsibility for reticulation and sale to consumers, except to certain industrial users. At 30 June 1967, the loan debt of the Commission to the State Treasury in respect of these two schemes was \$4.02m and, to other lenders, \$0.92m.

A smaller Commission scheme is now operating on the Prosser River, supplying water to the sodium alginate industry at Louisville near Orford and also the town of Orford in Spring Bay Municipality; loan debt to the State Treasury in respect of this scheme was \$0.40m at 30 June 1967.

In addition, the Commission recommends to the Minister the payment of subsidies if construction of water and sewerage schemes is beyond the financial capacity of local government authorities, or if they require assistance to pay for water supplied from regional schemes. In 1966-67, Government subsidies in respect of local government water and sewerage schemes were \$357,199 (excluding a subsidy of \$83,000 to the West Tamar scheme).

Municipal Waterworks

At 30 June 1967, there were 104 municipally operated waterworks, the total reservoir capacity approximating 2,900m gallons (some major schemes operate by pumping directly from rivers and therefore have very limited need for storage capacity). The estimated population served was 322,000, or over 85 per cent of all Tasmanians, and the number of properties served exceeded 102,000. In 1966-67, the receipts of all local government authorities for water supply totalled \$3.59m, their loan debt for construction purposes at 30 June 1967 standing at \$14.92m. (See previous section, 'Metropolitan Water Board', for new arrangement reducing debt of metropolitan local government authorities.)

Municipal Sewerage

At 30 June 1967, there were 27 municipal schemes, serving an estimated population of 218,000 or 58 per cent of all Tasmanians; the number of tenements served exceeded 67,000. In 1966-67, the receipts of all local government authorities for sewerage services were \$1.81m, their loan debt for construction standing at \$14.99m at 30 June 1967.

Chapter 5

DEMOGRAPHY

POPULATION

(See Appendix C for 1968 population estimate)

Aborigines

In this Chapter, aborigines are not included in any of the tables prior to 1961 nor are they included in any of the detailed census classifications in 1961 and 1966. In tables showing only the total population for the State (and for local government areas), they have been included, however, from 1961. This change was brought about by the repeal of Section 127 of the Commonwealth Constitution but, for all practical purposes, it has had no effect on Tasmanian population figures. One aboriginal only was recorded in Tasmania at the 1966 Census.

Historical

In 1803, Lieutenant John Bowen's expedition of 49 persons made the first white settlement at Risdon Cove; at 30 June 1967, Tasmania's population was estimated to be 376,434 persons.

The Statistical Tables, Tasmania 1804 to 1823 show the first population record in 1816 when the white inhabitants numbered 1,461, analysed as 1,032 free, 409 convicts and 20 children of convicts. From the year 1816, there exists a continuous annual record of Tasmania's population.

Source of Population Figures

There are two principal methods by which population figures can be obtained: (i) by census enumeration; (ii) by application of vital and migration statistics to census data. The second method involves taking account of natural increase (excess of births over deaths), and net migration (excess of arrivals over departures) and applying these net figures to information obtained from an earlier census, the result being termed an intercensal estimate. (*Net migration* may be ascertained by two methods: taking account of *all* arrivals and departures, or only of arrivals and departures related to permanent change of place of residence. The former method was used for all estimates up to 30 June 1961, the latter method for later series. In relation to this change, see later section headed 'New Method of Estimating Population'.)

Censuses were conducted by the State in 1841, 1847, 1851, 1857, 1861, 1870, 1881, 1891 and 1901; the Commonwealth Statistician became responsible for censuses with the establishment of the Commonwealth Bureau of Census and Statistics and conducted them in 1911, 1921, 1933, 1947, 1954, 1961 and 1966.

Population from 1820

The table that follows is based on the traditional historical series and has been compiled to show the population at the end of each decade from 1820, and also to show the average annual growth in each decade on two bases, firstly gross and secondly, attributable to natural increase.

Historical Summary of Population in Decades

| Year | Estimated Population (a) | | | Average Annual Increase For Decade (b) : | |
|----------------|--------------------------|---------|---------|--|---------------------------|
| | Males | Females | Persons | In Total Population | From Natural Increase (c) |
| 1820 | 4,057 | 1,343 | 5,400 | .. | .. |
| 1830 | 18,108 | 6,171 | 24,279 | 1,888 | .. |
| 1840 | 32,040 | 13,959 | 45,999 | 2,172 | 106 |
| 1850 | 44,229 | 24,641 | 68,870 | 2,287 | 656 |
| 1860 | 49,653 | 40,168 | 89,821 | 2,095 | 1,214 |
| 1870 | 53,517 | 47,369 | 100,886 | 1,107 | 1,622 |
| 1880 | 60,568 | 54,222 | 114,790 | 1,390 | 1,542 |
| 1890 | 76,453 | 68,334 | 144,787 | 3,000 | 2,496 |
| 1900 | 89,763 | 83,137 | 172,900 | 2,811 | 2,776 |
| 1910 | 97,026 | 92,781 | 189,807 | 1,691 | 3,322 |
| 1920 | 106,236 | 103,189 | 209,425 | 1,962 | 3,649 |
| 1930 | 111,148 | 108,835 | 219,983 | 1,056 | 3,127 |
| 1940 | 121,911 | 118,280 | 240,191 | 2,021 | 2,438 |
| 1950 | 140,339 | 135,563 | 275,902 | 3,571 | 3,768 |
| 1960 | 174,379 | 169,531 | 343,910 | 6,801 | 5,523 |
| 1967 (d) | 189,912 | 186,522 | 376,434 | 4,646 | 5,151 |

(a) Up to 1900, at 31 December; from 1910, at 30 June.

(b) Decade ending in year shown.

(c) Excess of births over deaths in calendar years.

(d) Incomplete decade; averages based on seven-year period only.

Pattern of Net Migration

By comparing the last two columns in the previous table, it is possible to make an assumption as to whether net migration (excess of arrivals over departures) tended to be positive or negative in any decade.

In the two decades ended 1870 and 1880, for example, natural increase was becoming a more significant factor but the growth of population was checked by negative net migration. Important mining discoveries (e.g. Mt Bischoff, Zeehan and Mt Lyell) brought prosperity to the State, and the two decades ended 1900 were characterised by positive net migration.

The main characteristic of the five decades ended 1950 was persistent loss of population due to negative net migration, the decade most affected ending in 1930. This trend in net migration loss persisted till the end of World War II (1945). The Commonwealth Government's post-war immigration policy and the increasing industrialisation of the State combined to reverse the adverse trend of the previous half-century, and the last decade, ending 1960, was characterised by positive net migration. In the present incomplete decade, some loss of population by negative net migration is suggested by the figures. The actual annual increase in population, for each year ended 30 June, has been: 1961, 6,430 persons; 1962, 5,328; 1963, 5,059; 1964, 3,584; 1965, 3,594; 1966, 3,531; 1967, 4,998; in all, an increase of 32,524 persons over a period of seven years, or an average of 4,646 persons each year. (*The increase in 1967-68 was 5,396 persons, population at 30 June 1968 being 382,030.*)

Census Populations from 1841

The following table records the population and masculinity at each census since 1841 and compares the rate of intercensal growth.

Population and Masculinity at each Census from 1841

| Census Date | Population | | | Average Annual Rate of Increase (a) | Masculinity (b) |
|-----------------|------------|---------|---------|--|--------------------|
| | Males | Females | Persons | | |
| 31 Dec. 1841 .. | 34,493 | 17,006 | 51,499 | .. | 202.83 |
| 31 Dec. 1847 .. | 47,828 | 22,336 | 70,164 | 5.29 | 214.13 |
| 1 Mar. 1851 .. | 44,648 | 25,482 | 70,130 | - 0.01 | 175.21 |
| 31 Mar. 1857 .. | 46,606 | 34,886 | 81,492 | 2.53 | 133.60 |
| 7 Apr. 1861 .. | 49,593 | 40,384 | 89,977 | 2.51 | 122.80 |
| 7 Feb. 1870 .. | 52,853 | 46,475 | 99,328 | 1.11 | 113.72 |
| 3 Apr. 1881 .. | 61,162 | 54,543 | 115,705 | 1.40 | 112.14 |
| 5 Apr. 1891 .. | 77,360 | 69,107 | 146,667 | 2.40 | 112.23 |
| 31 Mar. 1901 .. | 89,624 | 82,851 | 172,475 | 1.64 | 108.17 |
| 3 Apr. 1911 .. | 97,591 | 93,620 | 191,211 | 1.04 | 104.24 |
| 4 Apr. 1921 .. | 107,743 | 106,037 | 213,780 | 1.12 | 101.61 |
| 30 June 1933 .. | 115,097 | 112,502 | 227,599 | 0.52 | 102.31 |
| 30 June 1947 .. | 129,244 | 127,834 | 257,078 | 0.87 | 101.10 |
| 30 June 1954 .. | 157,129 | 151,623 | 308,752 | 2.65 | 103.63 |
| 30 June 1961 .. | 177,628 | 172,712 | 350,340 | 1.82 | 102.85 |
| 30 June 1966 .. | 187,390 | 184,045 | 371,435 | 1.18 | 101.82 |

(a) Intercensal increase in total population as compound rate of growth per cent.

(b) Number of males per 100 females.

The census figures up to 1870 include the British military establishment; the last Imperial troops were withdrawn later in 1870. Figures for the 1966 Census have been revised (data in the 1967 and 1968 *Year Books* were preliminary results).

Comparison with other States

The following table compares the Tasmanian population at Censuses from 1901 with that of other States and Territories (full-blood aborigines are excluded):

Australia: Census Populations of States and Territories (a)
('000 Persons)

| State or Territory | 1901 | 1921 | 1933 | 1947 | 1954 | 1961 | 1966 |
|--------------------|-------|-------|-------|-------|-------|--------|--------|
| N.S.W. | 1,355 | 2,100 | 2,601 | 2,985 | 3,424 | 3,917 | 4,234 |
| Victoria | 1,201 | 1,531 | 1,820 | 2,055 | 2,452 | 2,930 | 3,220 |
| Queensland | 498 | 756 | 947 | 1,106 | 1,318 | 1,519 | 1,664 |
| S.A. | 359 | 495 | 581 | 646 | 797 | 969 | 1,092 |
| W.A. | 184 | 333 | 439 | 502 | 640 | 737 | 837 |
| Tasmania | 172 | 214 | 228 | 257 | 309 | 350 | 371 |
| N.T. | 5 | 4 | 5 | 11 | 17 | 27 | 37 |
| A.C.T. (b) | .. | 3 | 9 | 17 | 30 | 59 | 96 |
| Australia | 3,774 | 5,436 | 6,630 | 7,579 | 8,987 | 10,508 | 11,550 |

(a) Census of 1911 not shown.

(b) Part of N.S.W. prior to 1911.

The next table shows the average annual rate of increase of population in each State and Territory during intercensal periods:

Australia: Average Annual Percentage Rate of Increase of Population During Intercensal Periods

| State or Territory | 1911-21 | 1921-33 | 1933-47 | 1947-54 | 1954-61 | 1961-66 |
|--------------------|---------|---------|---------|---------|---------|---------|
| N.S.W. | 2.46 | 1.76 | 0.99 | 1.98 | 1.94 | 1.57 |
| Victoria | 1.53 | 1.42 | 0.87 | 2.56 | 2.58 | 1.90 |
| Queensland | 2.24 | 1.86 | 1.11 | 2.53 | 2.04 | 1.84 |
| S.A. | 1.94 | 1.31 | 0.76 | 3.05 | 2.83 | 2.41 |
| W.A. | 1.66 | 2.29 | 0.97 | 3.51 | 2.03 | 2.58 |
| Tasmania | 1.12 | 0.52 | 0.87 | 2.65 | 1.82 | 1.18 |
| N.T. | 1.57 | 1.87 | 5.93 | 6.12 | 7.40 | 6.58 |
| A.C.T. | 4.14 | 10.71 | 4.65 | 8.70 | 9.93 | 10.30 |
| Australia | 2.01 | 1.63 | 0.96 | 2.46 | 2.26 | 1.91 |

It will be observed that only in the period 1947-54 did the Tasmanian rate of growth exceed that for Australia as a whole and that 1921-33 was the period of minimum Tasmanian growth.

Intercensal Adjustment

Earlier, mention was made of the method for calculating intercensal estimates of population by taking account of recorded natural increase and recorded net migration. The following two tables show these factors in successive intercensal periods from 1911; 'arrivals' and 'departures' in the first table refer to both short-term and long-term movements.

Analysis of Intercensal Increase in Population (i) Recorded Natural Increase and Recorded Net Migration

| Intercensal Period | Births | Deaths | Natural Increase | Arrivals | Departures | Net Migration |
|-----------------------------|--------|--------|------------------|-----------|------------|---------------|
| 3.4.1911 to 4.4.1921 (a).. | 56,459 | 20,011 | 36,448 | 386,377 | 396,642 | - 10,265 |
| 4.4.1921 to 30.6.1933 (b).. | 61,955 | 25,174 | 36,781 | 507,209 | 535,780 | - 28,571 |
| 30.6.1933 to 30.6.1947 .. | 73,130 | 34,767 | 38,363 | 482,577 | 493,305 | - 10,728 |
| 30.6.1947 to 30.6.1954 .. | 51,615 | 17,557 | 34,058 | 870,768 | 845,009 | + 25,759 |
| 30.6.1954 to 30.6.1961 .. | 59,282 | 18,631 | 40,651 | 1,070,297 | 1,065,254 | + 5,043 |
| 30.6.1961 to 30.6.1966 .. | 41,276 | 14,786 | 26,490 | 1,071,892 | 1,077,942 | - 6,050 |

(a) Numbers recorded between the March quarters of 1911 and 1921, i.e. the quarter nearest to the census date.

(b) Numbers recorded from the March quarter of 1921.

(ii) Census Population, Intercensal Records and Intercensal Adjustment

| Census Date | Population | Numbers Recorded Since Previous Census | | Intercensal Adjustment (a) |
|--------------|------------|--|---------------|----------------------------|
| | | Natural Increase | Net Migration | |
| 4.4.1921 .. | 213,780 | 36,448 | - 10,265 | - 3,614 |
| 30.6.1933 .. | 227,599 | 36,781 | - 28,571 | + 5,609 |
| 30.6.1947 .. | 257,078 | 38,363 | - 10,728 | + 1,844 |
| 30.6.1954 .. | 308,752 | 34,058 | + 25,759 | - 8,143 |
| 30.6.1961 .. | 350,340 | 40,651 | + 5,043 | - 4,106 |
| 30.6.1966 .. | 371,435 | 26,490 | - 6,050 | + 655 |

(a) For definition, see following section; adjustment is to reconcile increase deduced from first column with net increase recorded in second and third columns.

In general, two population estimates are made for any specific date: (i) *original* estimates for dates subsequent to a census and made before another census is taken; (ii) *revised* estimates for each newly completed intercensal

period to adjust for the difference between the new census result and the comparable estimate. Thus, all original estimates of population for the intercensal periods from 1911 to 1966 have been revised to reconcile with the results of successive censuses from 1921 to 1966 and can be regarded as final. Estimates of population for dates after 30 June 1966 must be regarded as subject to revision, and will be revised after the 1971 Census.

Population Estimates, Intercensal Years

The following are estimates of State population (with revised figures for the period 1961-1966, since the Census figures for 1966 published in the 1968 *Year Book* were preliminary):

Estimated Population, 30 June and 31 December

| Year | At 30 June | | | At 31 December | | |
|----------------|------------|---------|---------|----------------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| 1952 | 151,100 | 145,199 | 296,299 | 157,702 | 151,856 | 309,558 |
| 1953 | 155,161 | 148,919 | 304,080 | 161,305 | 155,160 | 316,465 |
| 1954 (a) | 157,129 | 151,623 | 308,752 | 162,393 | 156,825 | 319,218 |
| 1955 | 159,861 | 154,231 | 314,092 | 165,356 | 159,563 | 324,919 |
| 1956 | 162,196 | 156,274 | 318,470 | 168,695 | 162,645 | 331,340 |
| 1957 | 165,940 | 160,190 | 326,130 | 172,186 | 166,621 | 338,807 |
| 1958 | 169,123 | 163,943 | 333,066 | 174,465 | 169,433 | 343,898 |
| 1959 | 172,097 | 167,279 | 339,376 | 178,109 | 173,240 | 351,349 |
| 1960 | 174,379 | 169,531 | 343,910 | 180,511 | 175,458 | 355,969 |
| 1961 (a) | 177,628 | 172,712 | 350,340 | 178,864 | 174,394 | 353,258 |
| 1962 | 179,966 | 175,702 | 355,668 | 181,085 | 177,002 | 358,087 |
| 1963 | 182,439 | 178,288 | 360,727 | 183,330 | 179,469 | 362,799 |
| 1964 | 184,074 | 180,237 | 364,311 | 185,051 | 181,457 | 366,508 |
| 1965 | 185,789 | 182,116 | 367,905 | 186,483 | 183,125 | 369,608 |
| 1966 (a) | 187,391 | 184,045 | 371,436 | 188,539 | 185,366 | 373,905 |
| 1967 | 189,912 | 186,522 | 376,434 | 191,446 | 188,182 | 379,628 |

(a) Figures at 30 June as recorded at Census; figures from December 1961 to December 1965 are the revised estimates for the intercensal period 1961-1966. The repeal of Section 127 of the Commonwealth Constitution has resulted in full-blood aborigines being included in the revised estimates (1961-1966) and in original estimates following the 1966 Census. (Only one full-blood aboriginal was recorded in Tasmania at the 1966 Census.)

'De Facto' and 'De Jure'

Australian censuses credit persons to the State where they happen to be at census date (*de facto* basis) and not to the State where they normally reside (*de jure* basis); net migration, as defined and measured prior to 1961, was also on a *de facto* basis. Thus the December estimates in the table prior to 1961 are consistently higher than those for the preceding June by anything from 10,000 to 15,000 persons, due to the seasonal tourist influx.

New Method of Estimating Population

Until the Census of 1966, the quarterly intercensal population of each State had been estimated using three components: (i) the previous census population; (ii) accumulated natural increase; (iii) accumulated net migration. In this calculation, net migration was the algebraic sum of all arrivals, less all departures, recorded for shipping and aircraft (Tasmania) and for shipping, aircraft, rail and omnibus movements (other States); it therefore included overseas and interstate travel irrespective of purpose. The interstate component of net migration was obviously a composite figure, affected by persons who had permanently changed their State of residence, but even more by persons who had merely visited another State on business or holiday.

The new method of estimation, introduced after the 1966 Census, still relies on the same three components but defines and measures net migration in a different way, so that holiday, business or other similar short-term movements between States are eliminated. *Intercensal estimates for the period 1961-1966 have been revised in accordance with the new method, and incorporate the changed concept of net migration.*

In the new method, the State population is estimated by adding to the previous census population the natural increase and the allocation of the net gain to Australia by overseas migration for that State; gains or losses that result from movements between States are also taken into account, in so far as they are recorded as transfers of residence under child endowment procedures or Commonwealth Electoral procedures, supplemented by the results of any special sample surveys. It follows, therefore, that revised estimates subsequent to the 1961 Census omit the effect of holiday, business or other similar short-term movements between the States.

Mean Population

Mean populations are calculated for twelve-month periods to provide a satisfactory average basis for calculations requiring allowance for the continuous change in population figures during such periods. From 1901 onwards, the mean population for any year has been calculated by the formula:

$$\text{Mean Population} = \frac{a + 4b + 2c + 4d + e}{12}$$

where a is the population at the end of the quarter immediately preceding the year and b , c , d and e are the populations at the end of the quarters making up the year under consideration, (e.g. in the case of a mean population for the calendar year 1960, the populations in the formula represented by a , b , c , d and e are those at the following dates: 31.12.1959, 31.3.1960, 30.6.1960, 30.9.1960 and 31.12.1960).

The following table shows the State's mean population on two bases: (i) for financial years; (ii) for calendar years.

Mean Population, Financial and Calendar Years

| Year | Estimated Mean Population | | Year | Estimated Mean Population | |
|---------|---------------------------|---------------------------|----------|---------------------------|---------------------------|
| | Year Ended 30 June | Year Ended 31 December | | Year Ended 30 June | Year Ended 31 December |
| 1952 .. | 293,340 | 298,361 | 1960 .. | 344,111 | 346,913 |
| 1953 .. | 302,529 | 306,318 | 1961 .. | 350,077 | r 353,628 |
| 1954 .. | 309,416 | 311,055 | 1962r .. | 353,175 | 355,682 |
| 1955 .. | 312,694 | 315,565 | 1963r .. | 358,180 | 360,590 |
| 1956 .. | 318,309 | 321,039 | 1964r .. | 362,758 | 364,554 |
| 1957 .. | 324,666 | 328,435 | 1965r .. | 366,366 | 367,970 |
| 1958 .. | 332,046 | 335,382 | 1966r .. | 369,600 | 371,632 |
| 1959 .. | 338,628 | 341,423 | 1967 .. | 373,916 | 376,588 |

r Revised.

Arrivals and Departures

Earlier in this chapter, reference was made to net migration as one factor determining the growth of the State's population. Net migration, on a *de facto* basis for any period, is the difference between arrivals and departures, such movements being reported by the shipping companies and airlines. 'Arrivals' in the following table applies to all persons arriving in Tasmania from overseas

or from other Australian States; it includes Tasmanians returning home. Similarly, 'departures' applies to all persons leaving Tasmania for overseas or for other Australian States; it includes visitors returning home. The table below shows annual arrivals and departures and also quarterly arrivals and departures for recent years, but the intercensal adjustments referred to in an earlier section have not been applied to the figures:

Recorded Arrivals In and Departures From Tasmania, Interstate and Overseas (a)

| Period | Arrivals | Departures | Period | Arrivals | Departures |
|---------|----------|------------|------------------|----------|------------|
| 1956 .. | 143,104 | 141,686 | 1965—March Qr .. | 74,849 | 81,929 |
| 1957 .. | 143,601 | 141,310 | June Qr .. | 54,616 | 59,058 |
| 1958 .. | 141,814 | 141,995 | September Qr .. | 50,274 | 50,163 |
| 1959 .. | 162,761 | 160,569 | December Qr .. | 69,225 | 58,469 |
| 1960 .. | 182,537 | 183,513 | 1966—March Qr .. | 73,627 | 79,962 |
| 1961 .. | 186,423 | 184,165 | June Qr .. | 58,358 | 62,520 |
| 1962 .. | 185,268 | 186,023 | September Qr .. | 50,601 | 50,201 |
| 1963 .. | 198,443 | 199,918 | December Qr .. | 74,877 | 63,385 |
| 1964 .. | 219,930 | 223,380 | 1967—March Qr .. | 85,186 | 92,476 |
| 1965 .. | 248,964 | 249,619 | June Qr .. | 57,899 | 61,612 |
| 1966 .. | 257,463 | 256,068 | September Qr .. | 55,224 | 54,734 |
| 1967 .. | 270,934 | 271,560 | December Qr .. | 72,625 | 62,738 |

(a) Arrivals and departures on a *de facto* basis.

If annual arrivals and departures are added, the result may conveniently be termed 'annual movements' and a comparison of 'annual movements' over the years gives some indication of the degree to which travel and tourism have affected the State. Thus, in 1901, the year of Federation, annual arrivals and departures together totalled 51,000; in 1913, 91,800; in 1931, 58,500; in 1939, 120,200 and in 1967, over 500,000. The increase in 'annual movements' since World War II is largely attributable to the growing use of air travel and roll-on roll-off ferries. Another factor has been industrial legislation providing for paid holidays (two weeks' leave was increased to three weeks by the Federal Arbitration Commission in 1963); this has not only increased the tourist inflow but also has resulted in more Tasmanians taking holidays in the continental States.

The quarterly figures show a marked seasonal pattern with arrivals at their maximum in the spring and summer quarters (those ending December and March). Net migration figures on a *de facto* basis also show a seasonal pattern with substantial deviations from the quarterly average, approximating plus 11,000 persons in the December quarter; they also reflect the tourist outflow in the March quarter.

Population in Local Government Areas

The next table shows the population in cities, municipalities and statistical divisions at the Censuses of 1954, 1961 and 1966, and estimated for 1967. A new development following from the 1966 Census was the creation of the Hobart Statistical Division, made up from three complete and four *partitioned* local government areas. The following symbols are used in the table to indicate the Division (or Divisions) to which a local government area belongs: (H)—Hobart Statistical Division; (SE)—South Eastern Statistical Division; (S)—Southern Statistical Division.

The creation of the Hobart Statistical Division has had the effect of reducing the area of the Southern and South Eastern Statistical Divisions. (For fuller details, see subsequent section headed 'Population Centred on Hobart'.)

Population in Local Government Areas and Statistical Divisions At 30 June

| Local Government Area and Statistical Division | | | | Census 1954 | Census 1961 | Census 1966 r | Estimated 1967 r |
|--|----------|----|----|-------------|-------------|---------------|------------------|
| Hobart | (H) | .. | .. | 54,887 | 54,021 | 53,257 | 53,124 |
| Glenorchy | (H) | .. | .. | 25,810 | 35,682 | 39,053 | 39,909 |
| Clarence | (H) | .. | .. | 12,604 | 23,140 | 30,236 | 30,811 |
| Brighton | (H) (SE) | .. | .. | 2,570 | 2,115 | 2,207 | 2,253 |
| Glamorgan | (SE) | .. | .. | 1,099 | 1,128 | 1,125 | 1,127 |
| Green Ponds | (SE) | .. | .. | 949 | 969 | 880 | 856 |
| Richmond | (SE) | .. | .. | 1,679 | 1,673 | 1,658 | 1,650 |
| Sorell | (H) (SE) | .. | .. | 2,391 | 2,878 | 3,309 | 3,389 |
| Spring Bay | (SE) | .. | .. | 1,048 | 1,155 | 1,205 | 1,217 |
| Bruny | (S) | .. | .. | 591 | 504 | 400 | 412 |
| Esperance | (S) | .. | .. | 3,200 | 3,436 | 3,740 | 3,804 |
| Huon | (S) | .. | .. | 5,615 | 5,460 | 5,264 | 5,214 |
| Kingborough | (H) (S) | .. | .. | 8,335 | 10,025 | 10,322 | 10,310 |
| New Norfolk | (H) (S) | .. | .. | 9,429 | 10,217 | 10,315 | 10,874 |
| Port Cygnet | (S) | .. | .. | 2,861 | 2,754 | 2,550 | 2,507 |
| Tasman | (S) | .. | .. | 1,079 | 1,108 | 1,126 | 1,135 |
| Total Hobart Div. (a) | .. | .. | .. | 134,147 | 130,236 | 141,311 | 143,279 |
| Total SE. Div. (a) | .. | .. | .. | | 7,116 | 7,123 | 7,132 |
| Total S. Div. (a) | .. | .. | .. | | 18,913 | 18,213 | 18,181 |
| Launceston | .. | .. | .. | 37,627 | 38,118 | 37,217 | 37,078 |
| Total N. Central Div. | .. | .. | .. | 37,627 | 38,118 | 37,217 | 37,078 |
| Burnie | .. | .. | .. | 13,785 | 16,745 | 18,611 | 18,828 |
| Circular Head | .. | .. | .. | 7,568 | 7,733 | 7,884 | 7,890 |
| Deloraine | .. | .. | .. | 5,477 | 5,574 | 5,205 | 5,152 |
| Devonport | .. | .. | .. | 11,827 | 14,276 | 16,758 | 17,091 |
| Kentish | .. | .. | .. | 4,510 | 4,167 | 5,614 | 5,889 |
| King Island | .. | .. | .. | 2,554 | 2,784 | 2,462 | 2,380 |
| Latrobe | .. | .. | .. | 4,145 | 4,367 | 4,807 | 4,853 |
| Penguin | .. | .. | .. | 3,889 | 4,673 | 4,677 | 4,754 |
| Ulverstone | .. | .. | .. | 8,091 | 9,365 | 10,150 | 10,324 |
| Wynyard | .. | .. | .. | 7,394 | 8,835 | 9,564 | 9,920 |
| Total NW. Div. | .. | .. | .. | 69,240 | 78,519 | 85,732 | 87,081 |
| Beaconsfield | .. | .. | .. | 7,573 | 8,550 | 9,983 | 10,253 |
| Fingal | .. | .. | .. | 4,418 | 4,475 | 3,791 | 3,695 |
| Flinders | .. | .. | .. | 1,027 | 1,407 | 1,234 | 1,221 |
| George Town | .. | .. | .. | 2,516 | 3,677 | 5,101 | 5,368 |
| Lilydale | .. | .. | .. | 4,583 | 6,744 | 7,841 | 8,041 |
| Portland | .. | .. | .. | 1,412 | 1,274 | 1,391 | 1,408 |
| Ringarooma | .. | .. | .. | 3,440 | 3,056 | 2,866 | 2,826 |
| Scottsdale | .. | .. | .. | 3,189 | 3,417 | 3,628 | 3,711 |
| Total NE. Div. | .. | .. | .. | 28,158 | 32,600 | 35,835 | 36,523 |
| Evandale | .. | .. | .. | 1,676 | 1,608 | 1,554 | 1,546 |
| Longford | .. | .. | .. | 4,345 | 6,762 | 5,354 | 5,248 |
| St Leonards | .. | .. | .. | 7,095 | 11,032 | 13,660 | 14,141 |
| Westbury | .. | .. | .. | 3,974 | 4,581 | 4,964 | 5,034 |
| Total N. Midland Div. | .. | .. | .. | 17,090 | 23,983 | 25,532 | 25,969 |
| Bothwell | .. | .. | .. | 1,260 | 1,288 | 1,008 | 997 |
| Campbell Town | .. | .. | .. | 1,919 | 1,893 | 1,753 | 1,723 |
| Hamilton | .. | .. | .. | 6,143 | 4,178 | 4,329 | 4,349 |
| Oatlands | .. | .. | .. | 2,914 | 2,691 | 2,501 | 2,461 |
| Ross | .. | .. | .. | 680 | 672 | 617 | 615 |
| Total Midland Div. | .. | .. | .. | 12,916 | 10,722 | 10,208 | 10,145 |

Population in Local Government Areas and Statistical Divisions At 30 June—*continued*

| Local Government Area and Statistical Division | Census 1954 | Census 1961 | Census 1966 r | Estimated 1967 r |
|--|-------------|-------------|---------------|------------------|
| Gormanston | 523 | 507 | 540 | 546 |
| Queenstown | 4,497 | 4,624 | 4,393 | 4,457 |
| Strahan | 574 | 565 | 470 | 466 |
| Waratah | 514 | 367 | 698 | 1,379 |
| Zeehan | 2,816 | 3,191 | 3,489 | 3,539 |
| Total W. Div. | 8,924 | 9,254 | 9,590 | 10,387 |
| Migratory | 650 | 879 | 675 | 659 |
| Total Tasmania | 308,752 | 350,340 | 371,436 | 376,434 |

(a) The 1961 figure involves some estimation (see section prefacing table).

r Revised.

The estimated population distribution at 30 June 1968 is shown in Appendix C at end of book.

Distinction Between Urban and Rural

After the Censuses of 1954 and 1961, the Commonwealth Statistician published, as usual, a population classification using the terms metropolitan, urban and rural. *Metropolitan* was simply a sub-class of *urban* and was reserved for a defined area centred on each State capital.

To delineate the boundaries of these urban localities, the Statistician sought local advice, sent out field investigators, and inspected aerial photographs. However, although these procedures were an improvement on the earlier ones, the boundary decisions made for different urban areas, being highly subjective, did not provide sufficient comparability.

In the intercensal period 1961-1966, intensive research was undertaken and, in August 1965, the 27th Conference of Statisticians passed the following resolutions relating to the delimitation of urban areas:

- (i) (a) That the new concept of an *inner* and *outer* boundary around each of the State capitals and other cities with an urban population of at least 75,000 and a regional population of at least 100,000 be adopted; and
- (b) that the inner boundary be drawn to delimit the extent of urban development at each Census and it should, therefore, be a moving boundary to be adjusted after each Census, except that any State may extend the inner boundary during intercensal years to encompass significant and well-defined peripheral population growth; and
- (c) that the outer boundary be designed to contain the anticipated urban development of a city for a period of at least 20 to 30 years.
- (ii) (a) That an urban boundary be defined as soon as possible for all other settlements with a population of 1,000 or more; and
- (b) that State, Statistical Division, Local Government Area, and other boundaries be ignored in delimiting these urban areas.
- (iii) That urban boundaries be defined so as to include all contiguous census collector's districts which have a population density of 500 or more per square mile (subject to certain special rules).

Effect of Change in Tasmania

The resolution previously quoted as (i) affected only one centre in Tasmania, since only the Hobart area has 'an urban population of at least 75,000 persons and a regional population of at least 100,000'. Resolutions (ii) and (iii) affected all other cities and towns, including Launceston. The concept of ringing the capital city with two statistical boundaries, an inner and an outer, is new in Australia and therefore the next section 'Population Centred on Hobart' has been written to explain the logic of this approach.

Population Centred on Hobart*Historical*

As early as 1891, the Government Statistician realised the inadequacy of publishing population details purely in terms of individual administrative areas; Hobart, the City, and Hobart, a wider concept transcending the city boundary, were already beginning to require differentiation. Accordingly, he evolved a new grouping, *Hobart and Suburbs*, formed by combining the City of Hobart with adjoining towns and municipalities such as New Town, to the north, and Queenborough, to the south. By 1920, New Town and Queenborough had both been absorbed as part of the city, and the boundaries of the local government areas then encircling Hobart were not very different from those at the 1966 Census. The situation in 1966 can be summarised as follows:

Hobart and Encircling Local Government Areas, 1966

| Local Government Area | Area (sq mi) | Location (from City) | Classification (Urban or Rural) |
|-----------------------------|--------------|----------------------|---|
| City of Hobart.. | 31 | Central | Population basically urban |
| City of Glenorchy .. | 46 | North and west | Population basically urban; small rural pockets |
| Municipality of Clarence .. | 100 | East | Population mainly urban; some rural settlement |
| Municipality of Kingborough | 137 | South and west | Population mainly urban; extensive rural settlement |

The Statistician's problem, in 1921, 1933, 1947, 1954 and 1961 (Census years), had been how to combine these urban populations into a meaningful aggregate called *Hobart and Suburbs*. The solution, on each occasion, was to incorporate Hobart and Glenorchy into the total without dissection, and to add in defined urban areas of Clarence and Kingborough. In effect, it was necessary to partition the two larger municipalities, because of their large rural areas, and to establish statistical boundaries dividing urban from rural. Such boundaries were not static and underwent change as urban development spread out into previously rural areas. Thus, in the 1954 Census, *Hobart and Suburbs* was expanded to include Blackmans Bay (Kingborough), and Warrane and Howrah (Clarence); in the 1961 Census, the boundary was widened to include the Risdon Vale area (Clarence), the site of a newly-built suburb.

Inadequacy of Concept

The statistical boundary expansions just described raised difficult problems. Obviously *Hobart and Suburbs* in 1921 was a smaller area than in 1961; therefore population comparisons over time were, in strict theory, invalid. On the other hand, use of the same boundary for each census in the period 1921-1961 would have meant ignoring suburban development and producing a meaningless population figure for *Hobart and Suburbs*. There was, in addition, the difficult problem of deciding exactly what criteria to apply, when examining whether a rural area had developed to the point when it should be classified as urban.

Continuity of urban development from the inner city outwards could be taken as a guide, but there seemed to be exceptions (e.g. the relatively unsettled road link between Kingston and Taroona; despite the break in continuity, Kingston is very much a Hobart suburb).

Community of interest, chief places of work, prevailing land use, these and other considerations all provided valid criteria, but no satisfactory objective measures were developed and their application, in the ultimate, involved a personal and subjective judgment by the Statistician at each census.

An Australian Problem

These problems were not confined to Hobart alone but demanded a solution for each of the other State capitals, and for other large towns throughout Australia (e.g. *Launceston and Suburbs* as opposed to Launceston City). Before the Census of 1966, the solution of these problems had involved an element of subjective evaluation, making it hard to decide whether *Hobart and Suburbs* was an area completely comparable as a statistical concept with *Perth and Suburbs*, *Melbourne and Suburbs*, etc. In the 1966 Census, the problem of defining urban boundaries and urban populations was solved with an entirely new approach, details of which appear later under the section headed 'The Two Boundaries Concept'.

Topography of Hobart and Suburbs

If the term 'urban' calls to mind a picture of continuous densely inhabited terrain, then obviously the Hobart and Suburbs area fails to conform with this image, principally due to topography and the position of the western administrative boundaries. Both Hobart and Glenorchy have dense settlement along the Derwent but are bounded, in the west, by rugged hills (including Mt Wellington, 4,166 ft). Water from these western slopes is still used for municipal supply, and therefore there are very large reserved and unsettled areas within the two cities. In addition, much of the hill and mountain country is dedicated as a recreational reserve. In the simplest terms, some of Hobart's 31 square miles are completely built up whilst others are virgin bush; the same applies to Glenorchy's 46 square miles. Under such conditions, figures for the average density of population within the Hobart or Glenorchy administrative boundaries are not very meaningful measures, and are hardly comparable with densities for cities and towns not possessing such abnormal topography. Since Hobart and Glenorchy were incorporated in *Hobart and Suburbs* without dissection, it follows that density figures for this area would also be 'diluted'.

Hobart and Suburbs from 1921

The table that follows shows the population of Hobart and Suburbs recorded at successive censuses from 1921 to 1961; no 1966 figure is given. The figures are now of historical interest only since, from the Census of 30 June 1966, the concept of *Hobart and Suburbs* became obsolete.

Population of Hobart and Suburbs (a), 1921-1961

| Census Year | City of Hobart | City of Glenorchy | Municipality of Clarence (Part) | Municipality of Kingborough (Part) | Total Hobart and Suburbs |
|-------------|----------------|-------------------|---------------------------------|------------------------------------|--------------------------|
| 1921 .. | 43,615 | 6,348 | 2,199 | 229 | 52,391 |
| 1933 .. | 47,054 | 9,897 | 2,877 | 578 | 60,406 |
| 1947 .. | 56,668 | 14,498 | 3,810 | 1,591 | 76,567 |
| 1954 .. | 54,887 | 25,810 | 10,686 | 3,823 | 95,206 |
| 1961 .. | 54,021 | 35,682 | 20,734 | 5,495 | 115,932 |

(a) *Hobart and Suburbs* is now an obsolete classification.

Research Before 1966 Census

In 1963, Dr G. J. R. Linge of the Australian National University was commissioned by the Commonwealth Statistician to examine and report on 'the delimitation of metropolitan and other boundaries, together with suggestions as to nomenclature, boundaries, mapping and other matters considered pertinent'. His report led to the adoption by the 27th Conference of Statisticians of a series of *objective* criteria for the delimitation of urban boundaries, variations from Dr Linge's recommendations being only of a minor nature. These new criteria were applied in the 1966 Census.

The Basic Criterion (1966 Census)

The basic criterion adopted for the delimitation of urban boundaries was *population density* as applied to small areas. As urbanisation increases, the change from rural to urban uses is accompanied by increasing population density. Extensive field investigations have shown that areas at the fringe, which have largely lost their rural characteristics, and are developing towards urbanisation, have densities varying over only a small range. The adoption of a specific density from within that range provided a criterion which adequately delimits urban boundaries, and which can be applied objectively, uniformly, easily and without undue delay. *The criterion adopted was a density of 500 or more persons per square mile.* The geographic units classified according to the density criterion are census collector's districts, the smallest units available. These areas vary in size and shape, but as far as possible they have been designed to ensure that significant urban development in large rural collector's districts is split off as a separate collector's district.

Rigid application of the 500-person density criterion in every case would have created non-urban enclaves in obviously urban areas, e.g. sports grounds, industrial sites, etc. so special rules had to be formulated. The special rules are set out in the 1968 *Year Book*.

The Two Boundaries Concept

To present 1966 Census results, *two* boundaries were drawn:

(i) *The Outer Boundary:* This is *fixed* and circumscribes the area in close economic and social contact with the main city; the enclosed area is large enough to contain the expected growth of the major urban centre for a period of from 20 to 30 years, and its limits were defined after consultation with State authorities. This area is called the *Hobart Statistical Division*; with boundaries unchanged at successive censuses, the Hobart Statistical Division will record population totals for a constant area. Details of this Division are:

Components of Hobart Statistical Division

| Local Government Area | Remarks |
|--|--|
| (i) Cities of Hobart and Glenorchy, and Municipality of Clarence | Included without partition. |
| (ii) Municipality of Kingborough. | <i>Partitioned</i> south of Snug; northern portion included. |
| (iii) Municipality of New Norfolk | <i>Partitioned</i> ; west bank strip of Derwent River to New Norfolk, with Boyer and New Norfolk itself, included. |
| (iv) Municipality of Brighton | <i>Partitioned</i> ; east bank strip of Derwent River as far north as Pontville included. |
| (v) Municipality of Sorell | <i>Partitioned</i> ; coastal strip to Carlton River, with Sorell and Midway Point, included. |

The Hobart Statistical Division embraces a very much wider area than the old concept, Hobart and Suburbs, and it is formed from seven whole or partitioned local government areas; its boundaries are drawn wide enough to encompass all future urban development near Hobart over a long period.

(ii) *The Inner Boundary:* This confines the continuous area within which, at the time of the Census, there was a density of at least 500 persons per square mile. This density is ascertained for each collector's district (the smallest unit available). The boundary is *not fixed* and will move outwards from census to census, as urbanisation develops. The area within this inner boundary is called the *Hobart Metropolitan Area*.

The Hobart Metropolitan Area includes four local government areas (Hobart, Glenorchy, Clarence, Kingborough) but application of the density criterion means that all have to be partitioned. Details are:

Components of Hobart Metropolitan Area

| Local Government Area | Included | Excluded |
|-----------------------------------|--|---|
| (i) City of Hobart | Densely settled eastern portion | Hills and mountains to western boundary |
| (ii) City of Glenorchy | Densely settled eastern portion | Hills and mountains to western boundary |
| (iii) Municipality of Kingborough | Taroona (north of Shot Tower) | Balance of municipality |
| (iv) Municipality of Clarence | Densely settled western portion from Risdon Vale to Howrah | Balance of municipality |

The Hobart Metropolitan Area embraces a much smaller area than the old concept, Hobart and Suburbs. Firstly, it excludes the sparsely settled hill and mountain country in the western parts of Hobart and Glenorchy (previously described as mainly water and recreational reserves). Secondly, application of the continuity criterion results in the exclusion of Kingston which, while satisfying the density criterion, is nevertheless separated from Taroona by several miles of very thinly populated terrain.

(iii) *Urban Areas Between Boundaries:* Between the inner and outer boundaries are a few areas which satisfy the density and other criteria and are therefore classified as urban; they are nevertheless excluded from the Hobart Metropolitan Area because there is a substantial break in continuity between them and the main inner urban centre. At present, there are four such centres, namely New Norfolk, Sorell-Midway Point, Lauderdale, and Kingston.

(iv) *Other Areas Between Boundaries:* All areas between the inner and outer boundaries not classified as urban are called rural.

(v) *Administrative Boundaries:* In the delineation of both the Hobart Statistical Division and the Hobart Metropolitan Area, administrative boundaries have been ignored. The logic of this approach is that neither present nor future population growth can be adequately described purely in terms of local government areas.

The Hobart Statistical Division

The next table shows the population of the components of the Hobart Statistical Division at the Census of 1966, and also gives comparative figures from the Census of 1961. (To obtain the 1961 figures, it was necessary to draw boundaries according to the new criteria and to use some estimations.)

Population of Hobart Statistical Division (a)

| Components | Census, 30 June 1961 | Census, 30 June 1966 r | | | | |
|---|----------------------------|------------------------|-----------------|-------------------|-------------------------|--------------|
| | | Males | Females | Persons | Intercensal Increase | |
| | | | | | Number | Percent |
| Hobart Metropolitan Area (b) .. | 110,217 | 58,537 | 60,932 | 119,469 | 9,252 | 8.39 |
| Other Urban Centres— | | | | | | |
| Urban New Norfolk .. | 5,494 | 2,875 | 2,895 | 5,770 | 276 | 5.02 |
| Urban Kingston .. | 2,980 | 1,630 | 1,633 | 3,263 | 283 | 9.50 |
| Urban Sorell-Midway Pt .. | 1,264 | 849 | 803 | 1,652 | 388 | 30.70 |
| Urban Lauderdale .. | 649 | 461 | 455 | 916 | 267 | 41.14 |
| Total Other Urban .. | 10,387 | 5,815 | 5,786 | 11,601 | 1,214 | 11.69 |
| Rural Total Urban | 120,604 9,632 | 64,352 5,278 | 66,718 4,963 | 131,070 10,241 | 10,466 609 | 8.68 6.32 |
| Total Hobart Statistical Division | 130,236 | 69,630 | 71,681 | 141,311 | 11,075 | 8.50 |

(a) See 'Post-censal Estimates' immediately following for latest data.

(b) This concept replaces the obsolete classification *Hobart and Suburbs*.

r Revised.

Post-censal Estimates: At 30 June 1967, the population estimate for the Hobart Statistical Division was 143,279 persons, made up of 120,842 in the Hobart Metropolitan Area and 22,437 elsewhere in the Division.

(See Appendix C for 1968 estimates.)

Comparisons: The increase 1961-1966 for the Hobart Statistical Division relates to the population within the outer fixed boundary, i.e. the area is the same in both censuses; for the Hobart Metropolitan Area the intercensal increase 1961-1966 reflects: (i) population changes within the 1961 boundaries; (ii) urban growth beyond these boundaries as contained by the 1966 boundaries.

Population Centred on Launceston

Population of Launceston and Suburbs

In 1891, the Government Statistician commenced publishing figures for an area called *Launceston and Suburbs*; he had encountered a problem similar to that in Hobart, i.e. the urban pattern of the inner city was spreading beyond the administrative boundaries into adjacent municipalities.

Population of Launceston and Suburbs (a), 1933-1961

| Local Government Area | At 30 June | | | |
|----------------------------------|-------------|-------------|-------------|-------------|
| | Census 1933 | Census 1947 | Census 1954 | Census 1961 |
| City of Launceston | 28,945 | 37,717 | 37,627 | 38,118 |
| Municipality—Beaconsfield (Part) | | 186 | 2,629 | 3,162 |
| Lilydale (Part) | | 350 | 2,392 | 4,462 |
| St Leonards (Part) | (b) | 1,809 | 6,302 | 10,222 |
| Westbury (Part) | | 233 | 353 | 757 |
| Evandale (Part) | | 145 | (c) | (c) |
| Total Launceston and Suburbs | 32,833 | 40,440 | 49,303 | 56,721 |

(a) The classification *Launceston and Suburbs* is now obsolete.

(b) Not available separately.

(c) Excluded.

Population of Urban Launceston

As from the Census of 1966, the term *Launceston and Suburbs* became obsolete, and a new concept, based on application of an objective density criterion, was introduced. The area thus delimited is *Urban Launceston*.

Previously reference was made to the abnormal topography of the area within the administrative boundaries of Hobart and Glenorchy, resulting in large portions being thinly settled or uninhabited. Similar abnormalities are not encountered in Launceston and therefore the introduction of the objective density criterion has not substantially altered previous figures.

Urban Launceston's population at 30 June was: 1961 Census, 56,465 persons; 1966 Census, 60,456; 1967 (estimated), 61,199.

Urban and Rural Population of Tasmania

In the previous sections, the delimitation of the Hobart Metropolitan Area and Urban Launceston has been described, the basic method being the inclusion of contiguous census collector's districts with a population density of 500 or more per square mile (subject to certain special rules). The same criteria were applied uniformly throughout Tasmania after the 1966 Census and the next table has been compiled to show a dissection of each local government area into urban and rural components; the Hobart Metropolitan Area and Urban Launceston are specified separately but it should be noted that these two areas are identical in statistical concept with other urban localities.

The localities classified as urban had to have populations exceeding 1,000 persons, but special rules applied to holiday resorts where housing density was taken into account. The urban-rural dissection for Tasmania follows:

**Population in Local Government Areas Classified as Urban and Rural
Census, 30 June 1966**

| Local Government Area and Statistical Division | Total | Rural | Hobart Metro-politan Area | Urban Launceston | Other Urban (a) |
|--|---------|---------|---------------------------|------------------|-----------------|
| Hobart (H) .. . | 53,257 | 1,118 | 52,139 | .. | .. |
| Glenorchy (H) .. . | 39,053 | 1,283 | 37,770 | .. | .. |
| Clarence (H) .. . | 30,236 | 2,334 | 26,986 | .. | 916 |
| Brighton { (H) .. . | 2,207 | { 1,150 | .. | .. | .. |
| { (SE) .. . | | 1,057 | .. | .. | .. |
| Glamorgan (SE) .. . | 1,125 | 1,125 | .. | .. | .. |
| Green Ponds (SE) .. . | 880 | 880 | .. | .. | .. |
| Richmond (SE) .. . | 1,658 | 1,658 | .. | .. | .. |
| Sorell { (H) .. . | 3,309 | { 459 | .. | .. | 1,652 |
| { (SE) .. . | | 1,198 | .. | .. | .. |
| Spring Bay (SE) .. . | 1,205 | 1,205 | .. | .. | .. |
| Bruny (S) .. . | 400 | 400 | .. | .. | .. |
| Esperance (S) .. . | 3,740 | 3,740 | .. | .. | .. |
| Huon (S) .. . | 5,264 | 5,264 | .. | .. | .. |
| Kingborough { (H) .. . | 10,322 | { 3,363 | 2,574 | .. | 3,263 |
| { (S) .. . | | 1,122 | .. | .. | .. |
| New Norfolk { (H) .. . | 10,315 | { 534 | .. | .. | 5,770 |
| { (S) .. . | | 4,011 | .. | .. | .. |
| Port Cygnet (S) .. . | 2,550 | 2,550 | .. | .. | .. |
| Tasman (S) .. . | 1,126 | 1,126 | .. | .. | .. |
| Totals—Hobart Div. .. | 141,311 | 10,241 | 119,469 | .. | 11,601 |
| SE. Div. .. | 7,123 | 7,123 | .. | .. | .. |
| S. Div. .. | 18,213 | 18,213 | .. | .. | .. |
| Launceston .. . | 37,217 | .. | .. | 37,217 | .. |
| Total N. Central Div. .. | 37,217 | .. | .. | 37,217 | .. |

Population in Local Government Areas Classified as Urban and Rural
Census, 30 June 1966 r—continued

| Local Government Area and Statistical Division | Total | Rural | Hobart Metropolitan Area | Urban Launceston | Other Urban (a) |
|--|----------------|----------------|--------------------------|------------------|-----------------|
| Burnie | 18,611 | 2,805 | .. | .. | 15,806 |
| Circular Head | 7,884 | 5,186 | .. | .. | 2,698 |
| Deloraine | 5,205 | 3,412 | .. | .. | 1,793 |
| Devonport | 16,758 | 1,883 | .. | .. | 14,875 |
| Kentish | 5,614 | 5,614 | .. | .. | .. |
| King Island | 2,462 | 2,462 | .. | .. | .. |
| Latrobe | 4,807 | 2,566 | .. | .. | 2,241 |
| Penguin | 4,677 | 2,528 | .. | .. | 2,149 |
| Ulverstone | 10,150 | 3,308 | .. | .. | 6,842 |
| Wynyard | 9,564 | 3,973 | .. | .. | 5,591 |
| Total NW. Div. | 85,732 | 33,737 | .. | .. | 51,995 |
| Beaconsfield | 9,983 | 4,179 | .. | 3,903 | 1,901 |
| Fingal | 3,791 | 3,791 | .. | .. | .. |
| Flinders | 1,234 | 1,234 | .. | .. | .. |
| George Town | 5,101 | 1,008 | .. | .. | 4,093 |
| Lilydale | 7,841 | 2,254 | .. | 5,587 | .. |
| Portland | 1,391 | 1,391 | .. | .. | .. |
| Ringarooma | 2,866 | 2,866 | .. | .. | .. |
| Scottsdale | 3,628 | 1,930 | .. | .. | 1,698 |
| Total NE. Div. | 35,835 | 18,653 | .. | 9,490 | 7,692 |
| Evandale | 1,554 | 1,527 | .. | 27 | .. |
| Longford | 5,354 | 2,664 | .. | .. | 2,690 |
| St Leonards | 13,660 | 877 | .. | 12,783 | .. |
| Westbury | 4,964 | 4,025 | .. | 939 | .. |
| Total N. Midland Div. .. | 25,532 | 9,093 | .. | 13,749 | 2,690 |
| Bothwell | 1,008 | 1,008 | .. | .. | .. |
| Campbell Town | 1,753 | 1,753 | .. | .. | .. |
| Hamilton | 4,329 | 4,329 | .. | .. | .. |
| Oatlands | 2,501 | 2,501 | .. | .. | .. |
| Ross | 617 | 617 | .. | .. | .. |
| Total Midland Div. .. | 10,208 | 10,208 | .. | .. | .. |
| Gormanston | 540 | 540 | .. | .. | .. |
| Queenstown | 4,393 | 98 | .. | .. | 4,295 |
| Strahan | 470 | 470 | .. | .. | .. |
| Waratah | 698 | 698 | .. | .. | .. |
| Zeehan | 3,489 | 698 | .. | .. | 2,791 |
| Total W. Div. | 9,590 | 2,504 | .. | .. | 7,086 |
| Migratory | 675 | .. | .. | .. | .. |
| Total Tasmania | 371,436 | 109,772 | 119,469 | 60,456 | 81,064 |

(a) Details of urban localities are given in the next section.

r Revised.

Details of Urban Localities

In the previous table, each local government area has been dissected to show the distribution of its population, the final column reading 'Other Urban'. The next table gives details of the localities classified as urban (but excludes the Hobart Metropolitan Area and Urban Launceston).

Populations in Localities Classified as Urban (Excluding Hobart Metropolitan Area and Urban Launceston) at Census 30 June 1966 r

| Locality Classed as Urban | Local Government Area (a) | Persons in Urban Locality | Locality Classed as Urban | Local Government Area (a) | Persons in Urban Locality |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Lauderdale .. | Clarence .. | 916 | Ulverstone .. | Ulverstone .. | 6,842 |
| Sorell .. | Sorell .. | 1,652 | Wynyard .. | Wynyard .. | 3,355 |
| Kingston .. | Kingborough .. | 3,263 | Beaconsfield .. | Beaconsfield .. | 1,028 |
| New Norfolk .. | New Norfolk .. | 5,770 | Beauty Point .. | Beauty Point .. | 873 |
| Burnie-Somerset .. | Burnie .. | (b) 15,806 | George Town .. | George Town .. | 4,093 |
| Burnie-Somerset .. | Wynyard .. | (b) 2,236 | Scottsdale .. | Scottsdale .. | 1,698 |
| Smithton .. | Circular Head .. | 2,698 | Longford .. | Longford .. | 1,688 |
| Deloraine .. | Deloraine .. | 1,793 | Perth .. | Perth .. | 1,002 |
| Devonport .. | Devonport .. | 14,875 | Queenstown .. | Queenstown .. | 4,295 |
| Latrobe .. | Latrobe .. | 2,241 | Rosebery .. | Zeehan .. | 1,774 |
| Penguin .. | Penguin .. | 2,149 | Zeehan .. | Zeehan .. | 1,017 |

(a) See previous table for *total* population of local government area.

(b) See other component marked (b). r Revised.

Full details of the Hobart Metropolitan Area and the Hobart Statistical Division follow:

Population of the Hobart Statistical Division at Census of 30 June 1966 r

| Local Government Area | Total | Rural | Hobart Metropoli- tan Area | Other Urban | Locality Classified as Urban (U) |
|----------------------------|----------------|---------------|-------------------------------------|----------------|--|
| Hobart | 53,257 | 1,118 | 52,139 | .. | .. |
| Glenorchy | 39,053 | 1,283 | 37,770 | .. | .. |
| Clarence | 30,236 | 2,334 | 26,986 | 916 | (U) Lauderdale |
| Brighton (Part) | 1,150 | 1,150 | .. | .. | .. |
| Sorell (Part) | 2,111 | 459 | .. | 1,652 | (U) Sorell |
| Kingborough (Part) .. | 9,200 | 3,363 | 2,574 | 3,263 | (U) Kingston |
| New Norfolk (Part) .. | 6,304 | 534 | .. | 5,770 | (U) New Norfolk |
| Total Hobart Div... | 141,311 | 10,241 | 119,469 | 11,601 | .. |

r Revised.

The analysis of the local government areas enclosing Launceston follows:

Population of Launceston and Surrounding Local Government Areas at Census of 30 June 1966 r

| Local Government Area | Total | Rural | Urban Launceston | Other Urban | Locality Classified as Urban (U) |
|----------------------------|------------|------------|---------------------|----------------|--|
| Launceston (N. Central) .. | 37,217 | .. | 37,217 | .. | .. |
| Beaconsfield (NE.) .. | 9,983 | 4,179 | 3,903 | 1,028 | (U) Beaconsfield |
| Evandale (N. Mid.) .. | 1,554 | 1,527 | 27 | 873 | (U) Beauty Point |
| Lilydale (NE.) .. | 7,841 | 2,254 | 5,587 | .. | .. |
| St Leonards (N. Mid.) .. | 13,660 | 877 | 12,783 | .. | .. |
| Westbury (N. Mid.) .. | 4,964 | 4,025 | 939 | .. | .. |
| Total | (a) | (a) | (a) 60,456 | (a) | .. |

(a) Total distributed in North Central, North Eastern and North Midland Statistical Divisions.

r Revised.

Post-censal Locality Estimates: At 30 June 1967, the estimated populations of selected urban localities were: Hobart Metropolitan Area, 120,842; Urban Launceston, 61,199; Burnie-Somerset, 18,490; Devonport, 15,188; Ulverstone, 6,990; New Norfolk, 6,308. (See Appendix C for 1968 estimates.)

Australian Comparison

The next table compares the proportions of urban and rural population of the Australian States at the Census of 30 June 1966. (In the table, Urban Launceston is included with 'Other Urban'.)

**Proportion of Urban and Rural Population, Australian States and Territories
Census, 30 June 1966^r
(Per Cent)**

| Classification | Proportion of Total Population of State | | | | | | | | |
|----------------|---|--------|--------|--------|--------|--------|--------|--------|--------|
| | N.S.W. | Vic. | Qld | S.A. | W.A. | Tas. | N.T. | A.C.T. | Aust. |
| Urban— | | | | | | | | | |
| Metropolitan | 57.78 | 65.54 | 43.21 | 66.67 | 59.76 | 32.16 | .. | 96.14 | 58.14 |
| Other | 28.61 | 19.97 | 33.55 | 15.92 | 16.76 | 38.10 | 76.81 | .. | 25.08 |
| Rural .. | 13.40 | 14.39 | 23.12 | 17.27 | 23.11 | 29.55 | 22.40 | 3.86 | 16.61 |
| Migratory .. | 0.21 | 0.10 | 0.12 | 0.14 | 0.37 | 0.18 | 0.79 | .. | 0.17 |
| Total .. | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

^r Revised.

Decentralisation of Population

Tasmania differs very significantly from the five continental States: (i) lowest proportion in the metropolitan area; (ii) highest proportion classified as 'other urban'; (iii) highest proportion classified as 'rural'. The Tasmanian distribution is unique in one respect—none of the continental States has a non-metropolitan urban centre with a population exceeding 50 per cent of that in the metropolitan area; this is the Tasmanian situation, however, such a centre being Urban Launceston (included in 'other urban' in the above table).

Populations of Australian Capital Cities

The populations of Australian capital cities at Censuses since 1901 are shown in the following table:

Australia: Populations of Capital Cities at Census Dates (a)

| Metropolitan Area (b) | 1901 | 1921 | 1933 | 1947 | 1954 | 1961 (c) | 1966 (c) |
|-----------------------|-------|-------|-------|-------|-------|----------|----------|
| Sydney .. ('000) | 482 | 899 | 1,235 | 1,484 | 1,863 | 2,197 | 2,446 |
| Melbourne .. ('000) | 496 | 783 | 992 | 1,226 | 1,524 | 1,859 | 2,110 |
| Brisbane .. ('000) | 119 | 210 | 300 | 402 | 502 | 588 | 719 |
| Adelaide .. ('000) | 162 | 256 | 313 | 382 | 484 | 580 | 728 |
| Perth .. ('000) | 67 | 155 | 208 | 273 | 349 | 424 | 500 |
| Hobart .. ('000) | 35 | 52 | 60 | 77 | 95 | 110 | 119 |
| Canberra .. ('000) | .. | .. | 7 | 15 | 28 | 56 | 92 |
| Total—Persons ('000) | 1,361 | 2,355 | 3,115 | 3,859 | 4,845 | 5,814 | 6,714 |
| Percentage (d) | 36 | 43 | 47 | 51 | 54 | 55 | 58 |

(a) Census of 1911 not shown.

(b) Some of the apparent increase in the percentage of total population living in capital cities is due to periodic revision and extension of metropolitan boundaries.

(c) *Objective density criterion* introduced in 1966 Census, and 1961 figures revised on comparable basis.

(d) Percentage of total Australian population.

CHARACTERISTICS OF POPULATION

Age Distribution

In addition to giving the number of the State's population, the Census of 30 June 1966 provided a variety of data on characteristics of that population.

The table which follows shows the age distribution at 30 June 1966 and changes since 1961:

Age Distribution of the Population at 30 June 1966

| Age Last Birthday (Years) | Males | Females | Persons | | | |
|---------------------------------|---------|---------|---------|------------------------|-------------------------|-------------|
| | | | Total | Proportion of Total | Intercensal Increase(a) | |
| | | | | | Number | Percent (b) |
| 0- 4 | 20,496 | 16,610 | 40,106 | 10.80 | — 1,588 | — 3.81 |
| 5- 9 | 21,338 | 20,349 | 41,687 | 11.22 | — 2,972 | — 7.68 |
| 10-14 | 19,562 | 18,809 | 38,371 | 10.33 | — 1,481 | — 4.01 |
| 15-19 | 17,674 | 17,211 | 34,885 | 9.39 | — 7,129 | — 25.68 |
| 20-24 | 12,958 | 12,703 | 25,661 | 6.91 | — 2,540 | — 10.99 |
| 25-29 | 11,980 | 11,304 | 23,284 | 6.27 | — 2,137 | — 10.11 |
| 30-34 | 10,936 | 10,224 | 21,160 | 5.70 | — 2,117 | — 9.09 |
| 35-39 | 11,986 | 10,983 | 22,969 | 6.18 | — 1,147 | — 4.76 |
| 40-44 | 12,001 | 11,524 | 23,525 | 6.33 | — 1,728 | — 7.93 |
| 45-49 | 10,661 | 10,323 | 20,984 | 5.65 | — 79 | — 0.38 |
| 50-54 | 10,321 | 9,777 | 20,098 | 5.41 | — 2,267 | — 12.71 |
| 55-59 | 8,543 | 8,003 | 16,546 | 4.45 | — 2,398 | — 16.95 |
| 60-64 | 6,571 | 6,513 | 13,084 | 3.52 | — 1,307 | — 11.10 |
| 65-69 | 4,759 | 5,616 | 10,375 | 2.79 | — 584 | — 5.96 |
| 70-74 | 3,329 | 4,704 | 8,033 | 2.16 | — 165 | — 2.10 |
| 75-79 | 2,404 | 3,440 | 5,844 | 1.57 | — 733 | — 14.34 |
| 80-84 | 1,235 | 1,875 | 3,110 | 0.84 | — 375 | — 13.71 |
| 85-89 | 489 | 797 | 1,286 | 0.35 | — 148 | — 13.01 |
| 90-94 | 123 | 228 | 351 | 0.09 | — 43 | — 13.96 |
| 95-99 | 21 | 47 | 68 | 0.02 | — 17 | — 33.33 |
| 100 and Over | 3 | 5 | 8 | .. | — 2 | — 33.33 |
| Total | 187,390 | 184,045 | 371,435 | 100.00 | 21,095 | 6.02 |
| Under 21 | 81,747 | 78,668 | 160,415 | 43.19 | 10,603 | 7.08 |
| 21-64 | 93,280 | 88,665 | 181,945 | 48.98 | 8,425 | 4.86 |
| 65 and Over | 12,363 | 16,712 | 29,075 | 7.83 | 2,067 | 7.65 |

(a) Increase 1961-1966.

(b) Increase (or decrease) expressed as percentage of each age group total recorded in 1961.

An analysis of the change in the composition of the major age groups follows:

Age Distribution in Major Age Groups, 1961 and 1966

| Particulars | Age Groups (Years) | | | Total |
|--|--------------------|--------|-------------|--------|
| | Under 21 | 21-64 | 65 and Over | |
| Males— | | | | |
| 30 June 1961 | (no.) | 76,383 | 89,401 | 11,844 |
| 30 June 1966 | (no.) | 81,747 | 93,280 | 12,363 |
| Percentage Increase (1961-1966) .. (%) | + 7.0 | + 4.3 | + 4.4 | + 5.5 |
| Females— | | | | |
| 30 June 1961 | (no.) | 73,429 | 84,119 | 15,164 |
| 30 June 1966 | (no.) | 78,668 | 88,665 | 16,712 |
| Percentage Increase (1961-1966) .. (%) | + 7.1 | + 5.4 | + 10.2 | + 6.6 |

Conjugal Condition

The next table shows the conjugal condition of the population at the Census of 1966 and the previous Census of 1961:

Conjugal Condition of the Population

| Conjugal Condition | Census, 30 June 1961 | | Census, 30 June 1966 | | | |
|-----------------------------------|----------------------|---------------------|----------------------|---------|---------|---------------------|
| | Persons | | Males | Females | Persons | |
| | Total | Proportion of Total | | | Total | Proportion of Total |
| Never Married— | | per cent | | | | per cent |
| Under 15 years of age | 117,299 | 33.48 | 61,396 | 58,768 | 120,164 | 32.35 |
| 15 years and over | 58,039 | 16.57 | 37,078 | 27,287 | 64,365 | 17.33 |
| Total | 175,338 | 50.05 | 98,474 | 86,055 | 184,529 | 49.68 |
| Married | 153,014 | 43.68 | 81,811 | 81,320 | 163,131 | 43.92 |
| Married but permanently separated | 4,096 | 1.17 | 2,090 | 2,200 | 4,290 | 1.15 |
| Widowed | 15,563 | 4.44 | 3,782 | 13,177 | 16,959 | 4.57 |
| Divorced | 2,329 | 0.66 | 1,233 | 1,293 | 2,526 | 0.68 |
| Grand Total | 350,340 | 100.00 | 187,390 | 184,045 | 371,435 | 100.00 |

Birthplaces of the Population

The following table is of particular interest in view of the Commonwealth's post-war policy of actively encouraging migration from Europe. It shows birthplaces of the population at the Census of 1966 and at the previous Census of 1961:

Birthplaces of the Population

| Birthplace | Census, 30 June 1961 | | Census, 30 June 1966 | | | |
|------------------------------|----------------------|---------------------|----------------------|---------|---------|---------------------|
| | Persons | | Males | Females | Persons | |
| | Total | Proportion of Total | | | Total | Proportion of Total |
| | | per cent | | | | per cent |
| Australia and Territories .. | 317,478 | 90.62 | 167,572 | 168,100 | 335,672 | 90.37 |
| New Zealand | 1,128 | 0.32 | 617 | 620 | 1,237 | 0.33 |
| United Kingdom and Eire .. | 16,741 | 4.78 | 9,911 | 9,190 | 19,101 | 5.14 |
| Germany | 2,223 | 0.63 | 1,137 | 879 | 2,016 | 0.54 |
| Greece | 489 | 0.14 | 451 | 304 | 755 | 0.20 |
| Italy | 1,536 | 0.44 | 918 | 530 | 1,448 | 0.39 |
| Netherlands | 3,556 | 1.02 | 1,809 | 1,558 | 3,367 | 0.91 |
| Poland | 1,608 | 0.46 | 1,064 | 503 | 1,567 | 0.42 |
| Yugoslavia | 699 | 0.20 | 588 | 233 | 821 | 0.22 |
| Other European Countries .. | 2,993 | 0.85 | 1,842 | 1,048 | 2,890 | 0.78 |
| Total Europe | 29,845 | 8.52 | 17,720 | 14,245 | 31,965 | 8.61 |
| Other Birthplaces | 1,889 | 0.54 | 1,481 | 1,080 | 2,561 | 0.69 |
| Grand Total | 350,340 | 100.00 | 187,390 | 184,045 | 371,435 | 100.00 |

The analysis of the birthplaces of the population at 30 June 1966 can be viewed broadly as a measure of the degree to which migration from overseas has contributed to population growth over a long period.

The next table contrasts the position in the various States and Territories at 30 June 1966:

**Australia: Birthplaces of the Population, Census of 30 June 1966
Proportion of Population of State or Territory According to Birthplace
(Per Cent)**

| Birthplace | N.S.W. | Vic. | Qld | S.A. | W.A. | Tas. | N.T. | A.C.T. | Aust. |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Australia and Territories .. | 82.73 | 78.89 | 87.99 | 77.50 | 76.27 | 90.37 | 77.64 | 73.70 | 81.61 |
| New Zealand .. | 0.61 | 0.36 | 0.46 | 0.20 | 0.32 | 0.33 | 0.95 | 0.81 | 0.45 |
| U.K. and Eire .. | 7.20 | 7.44 | 6.38 | 11.18 | 12.44 | 5.14 | 8.25 | 10.24 | 7.87 |
| Other European Countries .. | 7.69 | 11.76 | 4.10 | 10.11 | 8.73 | 3.46 | 10.11 | 12.80 | 8.53 |
| Other Birth-places .. | 1.77 | 1.55 | 1.07 | 1.01 | 2.24 | 0.69 | 3.05 | 2.46 | 1.54 |
| Total .. | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

It will be observed that the Tasmanian pattern differs significantly from that of other States and Territories, the most similar being that of Queensland. The following table shows particulars of the period of residence in Australia of persons born outside Australia, both for Tasmania and for the Commonwealth:

**Period of Residence in Australia of Persons Born Outside Australia
Census of 30 June 1966**

| Period of Residence (Years) | Tasmania | | Australia | |
|--------------------------------|----------|------------------------|------------|------------------------|
| | Persons | | Persons | |
| | Total | Proportion of Total | Total | Proportion of Total |
| Born Outside Australia— | | per cent | | per cent |
| Under 1 | 2,566 | 0.69 | 161,861 | 1.40 |
| 1 and under 2 | 1,838 | 0.49 | 124,341 | 1.08 |
| 2 and under 3 | 1,494 | 0.40 | 110,329 | 0.96 |
| 3 and under 4 | 1,020 | 0.27 | 88,038 | 0.76 |
| 4 and under 5 | 993 | 0.27 | 72,902 | 0.63 |
| Under 5 | 7,911 | 2.13 | 557,471 | 4.83 |
| 5 and Over | 27,078 | 7.29 | 1,527,072 | 13.22 |
| Not Stated | 864 | 0.23 | 46,378 | 0.40 |
| Total Born Outside Australia | 35,853 | 9.65 | 2,130,921 | 18.45 |
| Born in Australia | 335,582 | 90.35 | 9,419,542 | 81.55 |
| Grand Total | 371,435 | 100.00 | 11,550,463 | 100.00 |

During the intercensal period 1961-1966, the number of persons born outside Australia in the Tasmanian and Commonwealth populations increased by 9.1 per cent and 19.8 per cent respectively. This can be related to the Commonwealth's policy of encouraging migration.

The previous table shows that this policy has had less effect upon the Tasmanian population than upon the Australian population.

Nationality of Population

Comparable percentages of persons of British nationality at 30 June 1966 were: N.S.W., 95.79; Victoria, 93.61; Queensland, 98.28; S.A., 95.24; W.A. 96.26; Tasmania, 98.46; N.T., 93.17; A.C.T., 92.51; Australia, 95.58. It should be noted that the Federal *Nationality and Citizenship Act* 1948 created, for the first time, the status of 'Australian Citizen'; all Australian citizens under the provisions of this Act are declared to be British subjects. From the earlier table on birthplaces of the Tasmanian population, it is established that 95.84 per cent were born in Australia, N.Z., the United Kingdom or Eire. While birthplace does not necessarily determine nationality in all cases, comparison of birthplace with nationality suggests that the percentage of naturalised British subjects was probably less than three per cent of the Tasmanian population at 30 June 1966.

The following table shows the nationality of the Tasmanian population at 30 June 1966 and also at 30 June 1961:

Nationality (i.e. Allegiance) of the Population

| Nationality | Census, 30 June 1961 | | Census, 30 June 1966 | | | Persons | |
|-------------------------------|----------------------|---------------------|----------------------|---------|---------|----------|--|
| | Persons | | Males | Females | Total | | |
| | Total | Proportion of Total | | | | | |
| British (a)— | | per cent | | | | per cent | |
| Born in Australia .. | 317,478 | 90.62 | 167,531 | 168,051 | 335,582 | 90.35 | |
| Born Outside Australia .. | 24,927 | 7.12 | 16,345 | 13,795 | 30,140 | 8.11 | |
| Total British .. | 342,405 | 97.74 | 183,876 | 181,846 | 365,722 | 98.46 | |
| Foreign— | | | | | | | |
| Dutch | 2,241 | 0.64 | 685 | 580 | 1,265 | 0.34 | |
| German | 1,223 | 0.35 | 467 | 325 | 792 | 0.21 | |
| Greek | 384 | 0.11 | 325 | 231 | 556 | 0.15 | |
| Italian | 1,213 | 0.35 | 550 | 363 | 913 | 0.25 | |
| Polish | 649 | 0.19 | 257 | 160 | 417 | 0.11 | |
| Yugoslavian | 397 | 0.11 | 270 | 108 | 378 | 0.10 | |
| Other (incl. Stateless) | 1,828 | 0.52 | 960 | 432 | 1,392 | 0.37 | |
| Total Foreign | 7,935 | 2.26 | 3,514 | 2,199 | 5,713 | 1.54 | |
| Grand Total | 350,340 | 100.00 | 187,390 | 184,045 | 371,435 | 100.00 | |

(a) All persons of individual citizenship status who, by virtue of the Federal *Nationality and Citizenship Act* 1948, are deemed to be British subjects. Includes naturalised British. For purposes of this table, Irish nationality is included with British.

Occupational Status

Lack of Comparability

The comparison in the next table is *approximate only*, since the method of classifying the occupational status of the population was changed in the 1966 Census; one result of this change was to classify as work force some persons who would possibly have excluded themselves in the 1961 Census. The new method of classification is fully discussed in Chapter 10, 'Labour, Prices and Wages', the relevant sections being headed 'Employment' and 'Unemployment'. 'At Work' was the classification employed at the 1961 Census; the 1966 equivalent was 'Employed', a changed concept.

The table below shows the occupational status of persons in the work force at the respective census dates (30 June 1961 and 1966):

Occupational Status: Analysis of Those in Work Force

| Occupational Status | Census, 30 June 1961 | | Census, 30 June 1966 | | | |
|---------------------------|----------------------|--------------------------|----------------------|---------|---------|--------------------------|
| | Persons | | Males | Females | Persons | |
| | Total | Proportion of Work Force | | | Total | Proportion of Work Force |
| In Work Force— | | | | | | |
| At Work— | | per cent | | | | per cent |
| Employer | 8,221 | 6.28 | 8,245 | 1,759 | 10,004 | 6.79 |
| Self-Employed | 13,191 | 10.08 | 9,162 | 1,644 | 10,806 | 7.33 |
| Employee (a) | 104,716 | 79.99 | 87,572 | 35,451 | 123,023 | 83.51 |
| Helper (b) | 699 | 0.53 | 432 | 940 | 1,372 | 0.93 |
| Total Employed | 126,827 | 96.88 | 105,411 | 39,794 | 145,205 | 98.56 |
| Not at Work— | | | | | | |
| Unemployed (c) | 2,592 | 1.98 | 1,146 | 971 | 2,117 | 1.44 |
| Others not at Work | 1,498 | 1.14 | .. | .. | .. | .. |
| Total in Work Force | 130,917 | 100.00 | 106,557 | 40,765 | 147,322 | 100.00 |
| Not in Work Force | 219,423 | .. | 80,833 | 143,280 | 224,113 | .. |
| Grand Total | 350,340 | .. | 187,390 | 184,045 | 371,435 | .. |

(a) On wage or salary.

(b) Not on wage or salary.

(c) In 1961, total of those 'unable to secure employment'; in 1966, total of 'unemployed'. See the previous text for changes in classification.

The following table shows the status of persons not in the work force in the 1961 and 1966 Censuses:

Occupational Status: Analysis of Those not in the Work Force

| Occupational Status | Census, 30 June 1961 | | Census, 30 June 1966 | | | |
|---|----------------------|---------------------------------------|----------------------|---------|---------|---------------------------------------|
| | Persons | | Males | Females | Persons | |
| | Total | Proportion of those not in Work Force | | | Total | Proportion of those not in Work Force |
| Not in Work Force— | | | | | | |
| Child not at School | 45,447 | per cent 20.71 | 22,544 | 21,474 | 44,018 | per cent 19.64 |
| Child Attending School or Full-time Student | 79,114 | 36.06 | 44,325 | 42,103 | 86,428 | 38.56 |
| Mainly Dependent on Pension or Superannuation | 22,230 | 10.13 | 9,310 | 13,551 | 22,861 | 10.20 |
| Independent Means | 3,390 | 1.54 | 1,287 | 1,541 | 2,828 | 1.26 |
| Home Duties | 65,619 | 29.91 | .. | 61,113 | 61,113 | 27.27 |
| Inmates of Institutions | 2,349 | 1.07 | 1,248 | 1,594 | 2,842 | 1.27 |
| Other | 1,274 | 0.58 | 2,119 | 1,904 | 4,023 | 1.80 |
| Total Not in Work Force | 219,423 | 100.00 | 80,833 | 143,280 | 224,113 | 100.00 |
| Total in Work Force | 130,917 | .. | 106,557 | 40,765 | 147,322 | .. |
| Grand Total | 350,340 | .. | 187,390 | 184,045 | 371,435 | .. |

In the next table, the proportions of the population in the work force in Tasmania and Australia at the respective Census dates are shown:

**Tasmania and Australia: Proportions of Population in Work Force
(Per Cent)**

| Particulars | Census, 30 June 1961 | | | Census, 30 June 1966 | | |
|--|----------------------|---------|---------|----------------------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| Total in Work Force— Tasmania | 57.02 | 17.15 | 37.37 | 56.86 | 22.15 | 39.66 |
| Australia.. | 59.59 | 20.38 | 40.21 | 58.83 | 25.02 | 42.05 |

Industry

The next table shows the main groups of industry in which the work force of Tasmania was employed at 30 June 1966, compared with 1961.

Industry of Population

| Industry Group | Census, 30 June 1961 | | Census, 30 June 1966 | | |
|---|----------------------|--------------------------|----------------------|---------|----------|
| | Persons | | Males | Females | Persons |
| | Total | Proportion of Work Force | | | Total |
| | | per cent | | | per cent |
| Primary Production | 17,157 | 13.11 | 15,054 | 2,161 | 17,215 |
| Mining and Quarrying | 3,631 | 2.77 | 3,245 | 128 | 3,373 |
| Manufacturing | 29,531 | 22.56 | 27,109 | 6,850 | 33,959 |
| Electricity, Gas, Water and Sanitary Services (a) | 3,165 | 2.42 | 3,743 | 258 | 4,001 |
| Building and Construction | 13,343 | 10.19 | 13,956 | 333 | 14,289 |
| Transport and Storage | 9,014 | 6.89 | 8,294 | 566 | 8,860 |
| Communication | 3,645 | 2.78 | 2,907 | 984 | 3,891 |
| Finance and Property | 3,726 | 2.85 | 2,846 | 1,720 | 4,566 |
| Commerce | 20,547 | 15.69 | 14,194 | 8,777 | 22,971 |
| Public Authority (n.e.i.) and Defence Services | 5,010 | 3.83 | 3,941 | 1,556 | 5,497 |
| Community and Business Services (including Professional) (b) .. | 13,023 | 9.95 | 6,933 | 10,555 | 17,488 |
| Amusement, Hotels, Cafes, Personal Service, etc. | 7,038 | 5.38 | 3,241 | 5,037 | 8,278 |
| Other | 2,087 | 1.59 | 1,094 | 1,840 | 2,934 |
| Total in Work Force .. | 130,917 | 100.00 | 106,557 | 40,765 | 147,322 |
| Persons not in Work Force .. | 219,423 | .. | 80,833 | 143,280 | 224,113 |
| Grand Total .. | 350,340 | .. | 187,390 | 184,045 | 371,435 |

(a) Production, supply and maintenance.

(b) Includes police, fire brigades, hospitals, medical and dental services, education, business services such as consultant engineering and surveying, accounting and auditing, industrial and trade associations, advertising, etc.

In the case of employees, the basis of classification is the industry of the employer; thus a carpenter employed by a mining company will appear under 'Mining and Quarrying', not under 'Building and Construction'. Employees

in the government sector (Commonwealth, State, Semi-Government, and Local Government) are not recorded separately but are allocated to appropriate industry groupings, e.g. State railway workers to 'Transport', postal workers to 'Communication', etc. Government employees not classified under any of the major industry groups in the following table appear under 'Public Authority n.e.i.'

'Work force' should not be confused with wage and salary earners since the term, by definition, includes employees, employers, self-employed, unpaid helpers and those classified as unemployed. For a full discussion of the change in classifying work force in the 1966 Census, see Chapter 10, 'Labour, Prices and Wages', specifically the 'Employment' and 'Unemployment' sections.

Religion

Commencing with the Census of 1933, and in subsequent censuses, the collection forms carried a note reminding the public that there was no legal obligation to answer the question on religion. The proportions of the population (10.28 per cent in 1961 and 9.78 cent per in 1966) not answering the question appear in the associated table as 'No Reply'.

The following table analyses the Tasmanian population according to religion reported at the Censuses of 1961 and 1966.

Religions of the Population

| Religion | Census, 30 June 1961 | | Census, 30 June 1966 | | | |
|--|----------------------|---------------------|----------------------|---------|---------|---------------------|
| | Persons | | Males | Females | Persons | |
| | Total | Proportion of Total | | | Total | Proportion of Total |
| Christian— | | per cent | | | | per cent |
| Baptist | 7,227 | 2.06 | 3,719 | 4,040 | 7,759 | 2.09 |
| Brethren | 2,008 | 0.57 | 1,508 | 1,554 | 3,062 | 0.82 |
| Catholic (a) | 63,993 | 18.27 | 36,058 | 35,031 | 71,089 | 19.14 |
| Churches of Christ | 2,507 | 0.72 | 1,328 | 1,373 | 2,701 | 0.73 |
| Church of England | 159,101 | 45.41 | 83,098 | 82,925 | 166,023 | 44.70 |
| Congregational | 4,193 | 1.20 | 2,145 | 2,385 | 4,530 | 1.22 |
| Greek Orthodox | 1,009 | 0.29 | 880 | 634 | 1,514 | 0.41 |
| Lutheran | 1,555 | 0.44 | 922 | 820 | 1,742 | 0.47 |
| Methodist | 42,236 | 12.06 | 20,994 | 22,090 | 43,084 | 11.60 |
| Presbyterian | 16,757 | 4.78 | 8,648 | 8,850 | 17,498 | 4.71 |
| Protestant (Undefined) | 1,975 | 0.56 | 1,288 | 1,373 | 2,661 | 0.72 |
| Salvation Army | 2,316 | 0.66 | 663 | 834 | 1,497 | 0.40 |
| Seventh Day Adventist | 1,567 | 0.45 | 980 | 944 | 1,924 | 0.52 |
| Other (including Christian Undefined) | 5,090 | 1.45 | 2,584 | 2,659 | 5,243 | 1.41 |
| Total Christian | 311,534 | 88.92 | 164,815 | 165,512 | 330,327 | 88.93 |
| Non-Christian— | | | | | | |
| Hebrew | 150 | 0.04 | 119 | 88 | 207 | 0.06 |
| Other | 118 | 0.04 | 199 | 79 | 278 | 0.07 |
| Total Non-Christian | 268 | 0.08 | 318 | 167 | 485 | 0.13 |
| Indefinite | 1,766 | 0.50 | 1,212 | 1,063 | 2,275 | 0.61 |
| No Religion | 775 | 0.22 | 1,345 | 675 | 2,020 | 0.54 |
| No Reply | 35,997 | 10.28 | 19,700 | 16,628 | 36,328 | 9.78 |
| Grand Total | 350,340 | 100.00 | 187,390 | 184,045 | 371,435 | 100.00 |

(a) Includes Catholic and Roman Catholic. (The Census forms do not list religions and followers of the one religion may describe it under different titles.)

VITAL STATISTICS**Historical**

In 1839, John Montagu, Colonial Secretary of Van Diemen's Land, submitted to the Governor, Sir John Franklin, a series of statistical returns; below is shown part of Return No. 17:

Vital Statistics of Van Diemen's Land

| Year | Births | Deaths | Marriages |
|------|--------|--------|-----------|
| 1824 | 177 | 132 | 75 |
| 1828 | 309 | 250 | 120 |
| 1829 | 301 | 260 | 166 |
| 1830 | 460 | 270 | 163 |
| 1831 | 422 | 282 | 114 |
| 1833 | 455 | 379 | 257 |
| 1834 | 714 | 557 | 370 |
| 1835 | 730 | 525 | 356 |
| 1836 | 684 | 443 | 496 |
| 1837 | 754 | 597 | 381 |
| 1838 | 717 | 403 | 331 |

The complete table covers the period 1824-1838 but entries for 1825, 1826, 1827 and 1832 read 'No Returns'. In a commentary for the Governor's guidance, Montagu wrote: 'I would also observe that the number of births and deaths are those only returned by ministers of the Church of England, and the former column refers to those only who have been christened; and although the number of deaths must be near the truth, yet the actual number of births has been very much under-stated'. Thus, even though the Tasmanian record of births, deaths and marriages covers a period of 140 years, these early figures cannot be accepted as being very reliable.

Registration Provisions

Franklin's Legislative Council had passed in 1838 *An Act for Registering Births, Deaths and Marriages in the Island of Van Diemen's Land and its Dependencies*. This provided for a Registrar in Hobart with subordinate Deputy Registrars in registration districts throughout the colony; they were to record births and deaths and report them to the Registrar. Ministers celebrating marriage were required to report direct to the Registrar; Deputy Registrars could also officiate and had certain licensing functions. As late as 1867, the Government Statistician complained that accurate death rates could not be compiled because Section 22 of the 1838 Act excluded the registration of the death of any prisoner of the Crown serving under an unexpired sentence of transportation. In 1868, he reported that the death rate could be accepted as correct since 'only one transported offender died during the year'. This would certainly suggest that total deaths for the island were not recorded for the years 1839 to 1866.

From 1857 to 1882, the Registrar of the Supreme Court was also Registrar of Births, Deaths and Marriages; from 1882 to 1919, the Government Statistician was the Registrar; from 1919, the Registrar-General's Department operated as a separate entity.

The Registrar General

The principal Act under which the Registrar General operates is the *Registration of Births and Deaths Act 1895* as amended which provides for district Registrars and the appointment of a Registrar General to be responsible

for the maintenance of central registers; in essence, the regional approach of the 1838 Act is retained. The functions of the Registrar General in relation to the registration of marriages were last defined in the *Marriage Act* 1942. However, in 1961, the Commonwealth Parliament passed the *Marriage Act* 1961. A few minor provisions (relating mainly to certain extensions of the application of the prohibited degrees) came into operation on the date the Act received the Royal Assent (6 May 1961) and the remainder of the Act came into operation on 1 September 1963. On this date, the Act superseded the marriage laws of all the States but did not affect the essential function of the Registrar General in the central registration of marriages. (The Commonwealth's passage of a uniform marriage law for Australia was the sequel to negotiations with all States.)

At the office of the Registrar General, there is kept a collection of all registrations made since 1839, as well as church records for earlier periods.

Summary of Principal Statistics

The principal numbers and rates relating to vital statistics in Tasmania for recent years are given in the following table:

Summary of Vital Statistics

| Year | Number of— | | | | Rate per 1,000 of Mean Population | | | Infant Mortality Deaths Under One Year per 1,000 Live Births |
|------|------------|-------------|--------|-------------------|-----------------------------------|-------------|--------|---|
| | Marriages | Live Births | Deaths | Infant Deaths (a) | Marriages | Live Births | Deaths | |
| 1957 | 2,507 | 8,435 | 2,670 | 170 | 7.63 | 25.68 | 8.13 | 20.2 |
| 1958 | 2,475 | 8,568 | 2,708 | 167 | 7.38 | 25.55 | 8.07 | 19.5 |
| 1959 | 2,567 | 8,625 | 2,780 | 202 | 7.52 | 25.26 | 8.14 | 23.4 |
| 1960 | 2,713 | 8,853 | 2,670 | 169 | 7.82 | 25.52 | 7.70 | 19.1 |
| 1961 | 2,677 | 8,982 | 2,789 | 151 | 7.57 | 25.40 | 7.89 | 16.8 |
| 1962 | 2,485 | 8,894 | 2,870 | 184 | 6.99 | 25.01 | 8.07 | 20.7 |
| 1963 | 2,579 | 8,530 | 2,818 | 153 | 7.15 | 23.66 | 7.82 | 17.9 |
| 1964 | 2,869 | 8,252 | 3,174 | 166 | 7.87 | 22.64 | 8.71 | 20.1 |
| 1965 | 2,888 | 7,535 | 3,043 | 125 | 7.85 | 20.48 | 8.27 | 16.6 |
| 1966 | 2,946 | 7,401 | 3,159 | 108 | 7.93 | r 19.91 | 8.50 | 14.6 |
| 1967 | 3,213 | 7,547 | 3,228 | 130 | 8.53 | 20.04 | 8.57 | 17.2 |

(a) Deaths under one year; included also in total deaths.

r Revised.

Crude Rate Comparisons

The rates per 1,000 of mean population for births, deaths and marriages are referred to as *crude* rates. It will be seen, in regard to marriages, that not *all* the population is 'at risk', children and those already married being obvious excluded examples. Similarly, births are clearly events related to certain fertile age groups of women and not to the total population; births also are directly related to the number of married persons and to the age structure of the married proportion of the community. Finally, deaths have a definite relationship with the numbers of each sex and the age structure of the community. Crude rates are valid measures of comparison in the short term only.

Subject to this limitation, the following Tasmanian historical comparisons exist as from 1880:

1. Crude Marriage Rate: highest 10.51 (1946); lowest 5.50 (1895 and 1896).
2. Crude Birth Rate: highest 36.63 (1884); lowest 19.39 (1935).
3. Crude Death Rate: highest 17.41 (1883); lowest 7.70 (1960).

It is probably significant that 1946 was the year of rapid demobilisation after World War II and that a similar marriage trend was recorded for 1919 and 1920 after World War I; as to the minima for marriage and birth rates, the 1890s and 1930s were decades characterised by severe economic depression. The crude birth rate for 1966 (19.91 per 1,000 of mean population) is not far above the State's lowest figure recorded in the 20th century (i.e. 19.39 in 1935). There is, of course, no suggestion that 1966 was a year of economic depression and the popularly accepted theory attributes the low figure to deliberate family planning. However, other factors are operative, the principal being the age composition of the female population. Girls born in the immediate post-war period are now entering the ranks of those likely to marry and this will increase the number of potentially fertile women. A slight increase in the crude birth rate was recorded for 1967 (20.04).

The effect of the post-war increase in births on the number of potentially fertile women may be inferred from the following table:

Pre-War, War-Time and Post-War Female Births

| Year | Female Births | Year | Female Births | Year | Female Births |
|------------|---------------|------------|---------------|------------|---------------|
| 1934 | 2,127 | 1941 | 2,574 | 1948 | 3,452 |
| 1935 | 2,211 | 1942 | 2,612 | 1949 | 3,532 |
| 1936 | 2,226 | 1943 | 2,677 | 1950 | 3,490 |
| 1937 | 2,359 | 1944 | 2,503 | 1951 | 3,553 |
| 1938 | 2,366 | 1945 | 2,882 | 1952 | 3,790 |
| 1939 | 2,409 | | | | |
| 1940 | 2,425 | 1946 | 3,287 | 1953 | 3,843 |
| | | 1947 (a) | 3,517 | 1954 | 3,851 |

(a) Survivors in 1968 are females aged 21 years.

Revision of Crude Rates

Due to revision of intercensal estimates of population in the period 1961-1966, *crude birth, death and marriage rates have been re-calculated* for the years 1961 to 1965 inclusive and some will therefore differ very slightly from those appearing in the 1968 *Year Book*.

Review of Infant Mortality

Infant mortality relates to the number of deaths *under one year* and the rate is expressed as the number of such deaths per 1,000 live births. It follows that comparisons over long periods of time are valid and not affected by the limitations attached to crude rates. In the record of infant mortality, the drop in rates has been dramatic:

Infant Mortality Rate, Selected Years, from 1880

| Year | Deaths under One Year Per 1,000 Live Births | Year | Deaths under One Year Per 1,000 Live Births | Year | Deaths under One Year Per 1,000 Live Births |
|---------|---|---------|---|---------|---|
| 1880 .. | 112.3 | 1920 .. | 65.5 | 1960 .. | 19.1 |
| 1890 .. | 105.6 | 1930 .. | 50.6 | 1965 .. | 16.6 |
| 1900 .. | 80.0 | 1940 .. | 35.2 | 1966 .. | 14.6 |
| 1910 .. | 101.7 | 1950 .. | 23.8 | 1967 .. | 17.2 |

The peak year since 1880 was 1883 with a rate of 124.0. In the period 1880-1910, the annual infant mortality rate exceeded 100 on 14 occasions. By way of contrast, the rate in 1966 reached a *record minimum* of 14.6.

At the turn of the century, 20 to 25 per cent of all deaths were those of infants under one year. It is apparent that the rapid fall in infant mortality rates will have markedly affected crude death rates, infant deaths being a component of total deaths. Infant mortality rates are used by some authorities as an index of the degree of civilisation attained by a community; by such standards, Tasmania, in common with other Australian States, ranks extremely high in comparison with other countries of the world.

Marriages

The following table summarises the number of marriages and the crude marriage rate since 1880:

Marriages and Crude Marriage Rates, Selected Years from 1880

| Year | Marriages | | Year | Marriages | |
|---------|-----------|-----------------|---------|-----------|-----------------|
| | Number | Crude Rates (a) | | Number | Crude Rates (a) |
| 1880 .. | 840 | 7.39 | 1940 .. | 2,476 | 10.27 |
| 1890 .. | 954 | 6.66 | 1950 .. | 2,422 | 9.18 |
| 1900 .. | 1,332 | 7.72 | 1960 .. | 2,713 | 7.82 |
| 1910 .. | 1,493 | 7.82 | 1965 .. | 2,888 | 7.85 |
| 1920 .. | 1,999 | 9.50 | 1966 .. | 2,946 | 7.93 |
| 1930 .. | 1,450 | 6.56 | 1967 .. | 3,213 | 8.53 |

(a) Number of marriages per 1,000 of mean population.

A feature of recent years has been the increase in the proportion of marriages which involve minors. This trend, dating from the end of World War II, still continues as shown in the following table:

Marriages of Minors

| Year | Age in Years | | | | | | | Total | |
|------|--------------|----|----|----|----|----|----|--------|-----------------------------------|
| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | Number | Percentage of Total Marriages (a) |

Bridegrooms

| | | | | | | | | | | |
|---------|----|----|----|----|----|-----|-----|-----|-----|-------|
| 1962 .. | .. | .. | .. | 1 | 10 | 58 | 120 | 195 | 384 | 15.45 |
| 1963 .. | .. | .. | .. | 2 | 18 | 71 | 118 | 228 | 437 | 16.94 |
| 1964 .. | .. | .. | .. | .. | 8 | 79 | 142 | 254 | 483 | 16.84 |
| 1965 .. | .. | .. | .. | .. | 5 | 131 | 176 | 249 | 561 | 19.43 |
| 1966 .. | .. | .. | .. | .. | 3 | 103 | 239 | 241 | 586 | 19.89 |
| 1967 .. | .. | .. | .. | 1 | 3 | 107 | 220 | 329 | 660 | 20.54 |

Brides

| | | | | | | | | | | |
|---------|----|----|----|-----|-----|-----|-----|-----|-------|-------|
| 1962 .. | .. | 1 | 14 | 79 | 192 | 286 | 329 | 318 | 1,219 | 49.06 |
| 1963 .. | .. | 2 | 12 | 94 | 193 | 296 | 361 | 311 | 1,269 | 49.20 |
| 1964 .. | .. | .. | 1 | 118 | 237 | 314 | 382 | 370 | 1,422 | 49.56 |
| 1965 .. | .. | .. | 3 | 105 | 253 | 370 | 401 | 382 | 1,514 | 52.42 |
| 1966 .. | .. | .. | 2 | 128 | 189 | 350 | 448 | 425 | 1,542 | 52.34 |
| 1967 .. | .. | .. | 2 | 102 | 232 | 354 | 444 | 516 | 1,650 | 51.35 |

(a) i.e. percentage of all marriages, including those involving adults.

The next table analyses the ages of all bridegrooms and brides contracting marriages:

Age of Bridegrooms and Brides, 1967

| Age (Years) | Bridegrooms | | Brides | |
|-------------------|-------------|----------------------|--------|----------------------|
| | Number | Per Cent of Total | Number | Per Cent of Total |
| Under 20 | 331 | 10.30 | 1,134 | 35.29 |
| 20-24 | 1,739 | 54.12 | 1,517 | 47.21 |
| 25-29 | 638 | 19.86 | 256 | 7.97 |
| 30-34 | 167 | 5.20 | 79 | 2.46 |
| 35-39 | 108 | 3.36 | 55 | 1.71 |
| 40-44 | 64 | 1.99 | 49 | 1.53 |
| 45-49 | 52 | 1.62 | 39 | 1.21 |
| 50-54 | 37 | 1.15 | 30 | 0.93 |
| 55-59 | 30 | 0.93 | 32 | 1.00 |
| 60-64 | 16 | 0.50 | 10 | 0.31 |
| 65 and Over | 31 | 0.96 | 12 | 0.37 |
| Total | 3,213 | 100.00 | 3,213 | 100.00 |

The following table gives the average age of brides and bridegrooms in recent years:

**Average Age of Bridegrooms and Brides
(Years)**

| Particulars | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Average Age of Bridegrooms— | | | | | | |
| Bachelors | 24.74 | 24.23 | 24.25 | 24.01 | 24.44 | 24.33 |
| Widowers | 55.12 | 56.63 | 57.44 | 55.40 | 57.55 | 56.29 |
| Divorcees | 40.07 | 41.43 | 42.02 | 40.60 | 40.87 | 41.70 |
| All Bridegrooms | 26.89 | 26.48 | 26.64 | 25.99 | 26.88 | 26.13 |
| Average Age of Brides— | | | | | | |
| Spinsters | 21.22 | 21.16 | 21.09 | 21.05 | 21.50 | 21.39 |
| Widows | 49.86 | 49.25 | 51.39 | 49.86 | 51.59 | 48.57 |
| Divorcees | 37.47 | 36.97 | 38.14 | 36.83 | 38.84 | 36.42 |
| All Brides | 23.41 | 23.10 | 23.30 | 22.82 | 23.84 | 23.14 |

In the next table, the conjugal condition of persons marrying is shown for a six-year period:

Conjugal Condition of Persons Marrying

| Year | Bridegrooms | | | Brides | | | Total Marriages |
|---------|-------------|----------|----------|-----------|--------|----------|--------------------|
| | Bachelors | Widowers | Divorced | Spinsters | Widows | Divorced | |
| 1962 .. | 2,225 | 91 | 169 | 2,221 | 93 | 171 | 2,485 |
| 1963 .. | 2,334 | 100 | 145 | 2,332 | 89 | 158 | 2,579 |
| 1964 .. | 2,581 | 112 | 176 | 2,592 | 122 | 155 | 2,869 |
| 1965 .. | 2,638 | 106 | 144 | 2,643 | 96 | 149 | 2,888 |
| 1966 .. | 2,636 | 125 | 185 | 2,634 | 117 | 195 | 2,946 |
| 1967 .. | 2,952 | 85 | 176 | 2,930 | 114 | 169 | 3,213 |

Over the last ten years, the months in which marriages most frequently occur are April, followed by December and January in that order; July appears to be the least popular. The numbers of marriages performed according to the rites of the principal religious denominations and of civil marriages contracted before Registrars are shown for recent years:

Marriages, Religious and Civil

| Particulars of Celebration | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Religious Rites— | | | | | | |
| Church of England | 855 | 934 | 1,108 | 1,089 | 1,097 | 1,299 |
| Catholic | 522 | 518 | 605 | 641 | 652 | 690 |
| Presbyterian | 125 | 113 | 138 | 143 | 141 | 147 |
| Methodist | 367 | 398 | 377 | 381 | 416 | 434 |
| Congregational | 43 | 46 | 31 | 49 | 47 | 44 |
| Baptist | 64 | 85 | 75 | 98 | 79 | 83 |
| Church of Christ | 16 | 23 | 25 | 21 | 19 | 20 |
| Salvation Army | 19 | 20 | 21 | 20 | 17 | 19 |
| Seventh Day Adventist | 3 | 5 | 6 | 3 | 11 | 9 |
| Other | 60 | 74 | 71 | 86 | 92 | 83 |
| Civil Ceremonies (a) | 411 | 363 | 412 | 357 | 375 | 385 |
| Total | 2,485 | 2,579 | 2,869 | 2,888 | 2,946 | 3,213 |

(a) Marriages contracted before Registrars.

Divorce

Divorce in Tasmania was previously provided for under the *Matrimonial Causes Act* 1860 as amended in 1864, 1874 and 1959. However, as from 1 February 1961, Australia came under uniform divorce law, the new *Matrimonial Causes Act* 1959 of the Commonwealth Parliament having come into effect on that date. (Like the uniform marriage law, the Commonwealth legislation relating to divorce was the sequel to negotiations with the States.)

In 1967, dissolutions of marriage approached eight per cent of the number of marriages contracted for that year (248 dissolutions against 3,213 marriages). The increase in the number of annual dissolutions is summarised in the historical table which follows.

Dissolutions of Marriage (a) Granted, Summary from 1881

| Decade Ending | Maximum in Decade | | Minimum in Decade | |
|----------------|-------------------|--------|-------------------|--------|
| | Year | Number | Year | Number |
| 1890 | 1886 | 6 | 1884 | . |
| 1900 | 1894 | 6 | 1896 | 3 |
| 1910 | 1909 | 13 | 1904 | 2 |
| 1920 | 1920 | 18 | 1916 | 2 |
| 1930 | 1928 | 55 | 1924 | 20 |
| 1940 | 1938 | 109 | 1937 | 30 |
| 1950 | 1949 | 266 | 1942 | 83 |
| 1960 | 1954 | 233 | 1958 | 176 |
| 1967 (b) | 1966 | 319 | 1964 | 230 |

(a) Includes nullities of marriage and judicial separations.

(b) Incomplete decade.

The following table gives the number of petitions filed by husbands and wives respectively, and the number of dissolutions of marriage during the

last six years. Every decree of dissolution of marriage is, in the first instance, a decree nisi and is not made absolute till the expiration of not less than three months thereafter.

Petitions Filed and Dissolutions Granted

| Particulars | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|--|------|------|------|------|------|------|
| Petitions for Dissolution (a) Filed | | | | | | |
| By— | | | | | | |
| Husband | 127 | 126 | 149 | 146 | 156 | 151 |
| Wife | 153 | 147 | 175 | 185 | 201 | 169 |
| Total Petitions | 280 | 273 | 324 | 331 | 357 | 320 |
| Dissolutions (a) Granted on Petition of— | | | | | | |
| Husband | 125 | 108 | 116 | 131 | 142 | 96 |
| Wife | 124 | 153 | 114 | 149 | 177 | 152 |
| Total Dissolutions | 249 | 261 | 230 | 280 | 319 | 248 |

(a) Includes nullities of marriage and judicial separations.

The next table deals with petitions filed:

Petitions Filed, 1967

| Petition For | Petitioner | | Total |
|---------------------------|------------|------|-------|
| | Husband | Wife | |
| Dissolution | 151 | 168 | 319 |
| Nullity | .. | .. | .. |
| Judicial Separation | .. | 1 | 1 |
| Total | 151 | 169 | 320 |

The table that follows analyses the grounds on which dissolutions were granted:

Dissolutions Granted According to Grounds, 1967

| Grounds | Petitioner | | Total |
|------------------------------------|------------|------|-------|
| | Husband | Wife | |
| DISSOLUTION OF MARRIAGE (a) | | | |
| Single Ground— | | | |
| Desertion | 44 | 65 | 109 |
| Adultery | 18 | 23 | 41 |
| Separation | 24 | 38 | 62 |
| Cruelty | .. | 5 | 5 |
| Drunkenness | .. | 5 | 5 |
| Dual Grounds— | | | |
| Desertion and Adultery .. | 2 | .. | 2 |
| Desertion and Separation | 5 | 3 | 8 |
| Cruelty and Drunkenness | .. | 4 | 4 |
| Other | 2 | 9 | 11 |
| Three Grounds or More .. | 1 | .. | 1 |
| Total | 96 | 152 | 248 |

(a) No nullities or judicial separations were granted in 1967.

The more frequent grounds for the granting of dissolutions are:

Dissolutions (a) Granted According to More Frequent Grounds

| Grounds | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|--------------------------------|------|------|------|------|------|------|
| On Petition of Husband— | | | | | | |
| Adultery | 42 | 32 | 37 | 30 | 33 | 18 |
| Desertion | 60 | 46 | 48 | 61 | 69 | 44 |
| Separation | 18 | 23 | 20 | 27 | 27 | 24 |
| Other | 5 | 7 | 11 | 13 | 13 | 10 |
| On Petition of Wife— | | | | | | |
| Adultery | 14 | 27 | 17 | 27 | 25 | 23 |
| Desertion | 54 | 66 | 47 | 58 | 72 | 65 |
| Separation | 41 | 40 | 25 | 41 | 47 | 38 |
| Other | 15 | 20 | 25 | 23 | 33 | 26 |
| Total | 249 | 261 | 230 | 280 | 319 | 248 |

(a) Includes nullities and judicial separations.

An analysis is made of the ages of the parties:

Dissolutions of Marriage, 1967—Ages of Parties at Time of Dissolution

| Age of Husband (Years) | Age of Wife (Years) | | | | | | Total Husbands |
|------------------------|---------------------|-------|-------|-------|-------|-------------|----------------|
| | Under 21 | 21-29 | 30-39 | 40-49 | 50-59 | 60 and over | |
| Under 21 | 1 | .. | .. | .. | .. | .. | 1 |
| 21-29 | .. | 46 | .. | .. | .. | .. | 46 |
| 30-39 | .. | 23 | 54 | 4 | .. | .. | 81 |
| 40-49 | .. | 2 | 22 | 43 | 5 | .. | 72 |
| 50-59 | .. | .. | 2 | 13 | 12 | 1 | 28 |
| 60 and over | .. | .. | .. | 4 | 6 | 10 | 20 |
| Total Wives .. | 1 | 71 | 78 | 64 | 23 | 11 | 248 |

The duration of marriage and issue are analysed below:

Dissolutions of Marriage, 1967—Duration of Marriage and Issue

| Duration of Marriage (Years) | Dissolutions of Marriages with— | | | | | | Total Marriages Dissolved | Total Number of Children (a) |
|------------------------------|---------------------------------|---------|------------|------------|------------|--------------------|---------------------------|------------------------------|
| | No Children | 1 Child | 2 Children | 3 Children | 4 Children | 5 or more Children | | |
| 0- 4 .. | 11 | 9 | 1 | .. | .. | .. | 21 | 11 |
| 5- 9 .. | 25 | 21 | 15 | 3 | 1 | .. | 65 | 64 |
| 10-14 .. | 15 | 6 | 13 | 8 | 7 | 2 | 51 | 97 |
| 15-19 .. | 10 | 7 | 12 | 10 | 5 | 7 | 51 | 123 |
| 20-24 .. | 6 | 4 | 7 | 10 | 3 | 2 | 32 | 71 |
| 25-29 .. | 7 | 3 | 1 | 1 | .. | .. | 12 | 8 |
| 30-34 .. | 6 | 2 | 1 | .. | .. | .. | 9 | 4 |
| 35-39 .. | 3 | .. | .. | .. | .. | .. | 3 | .. |
| 40-44 .. | 1 | .. | .. | .. | .. | .. | 1 | .. |
| 45 and over .. | 3 | .. | .. | .. | .. | .. | 3 | .. |
| Total Dissolutions .. | 87 | 52 | 50 | 32 | 16 | 11 | 248 | .. |
| Total Children (a) .. | .. | 52 | 100 | 96 | 64 | 66 | .. | 378 |

(a) Under 21 years of age.

Births

The following table summarises births and crude birth rates from 1880:

Number of Births and Crude Birth Rates, Selected Years from 1880

| Year | Births | | Year | Births | |
|---------|--------|------------------------------|---------|--------|------------------------------|
| | Number | Per 1,000 of Mean Population | | Number | Per 1,000 of Mean Population |
| 1880 .. | 3,739 | 32.90 | 1930 .. | 4,785 | 21.66 |
| 1885 .. | 4,637 | 36.29 | 1935 .. | 4,456 | 19.39 |
| 1890 .. | 4,813 | 33.60 | 1940 .. | 4,994 | 20.71 |
| 1895 .. | 4,790 | 31.16 | 1945 .. | 5,785 | 23.27 |
| 1900 .. | 4,864 | 28.18 | 1950 .. | 7,242 | 25.96 |
| 1905 .. | 5,257 | 28.50 | 1955 .. | 8,089 | 25.63 |
| 1910 .. | 5,586 | 29.25 | 1960 .. | 8,853 | 25.52 |
| 1915 .. | 5,845 | 29.78 | 1965 .. | 7,535 | r 20.48 |
| 1920 .. | 5,740 | 27.29 | 1966 .. | 7,401 | r 19.91 |
| 1925 .. | 5,218 | 24.21 | 1967 .. | 7,547 | 20.04 |

r Revised.

The next table shows, for a six-year period, the number of births and the age-groups of the mothers:

Number of Births Classified According to Age of Mother, and Crude Birth Rates

| Age Group of Mothers (Years) | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|------------------------------|-------|-------|-------|---------|---------|-------|
| 10-14 | 8 | 5 | 2 | 6 | 1 | 6 |
| 15-19 | 988 | 1,001 | 1,073 | 1,074 | 1,113 | 1,091 |
| 20-24 | 2,997 | 2,869 | 2,834 | 2,632 | 2,586 | 2,749 |
| 25-29 | 2,371 | 2,302 | 2,190 | 2,039 | 2,000 | 2,064 |
| 30-34 | 1,471 | 1,368 | 1,196 | 1,016 | 980 | 997 |
| 35-39 | 772 | 717 | 704 | 572 | 541 | 471 |
| 40-44 | 264 | 255 | 231 | 186 | 168 | 159 |
| 45 and over | 23 | 13 | 22 | 10 | 12 | 10 |
| Total | 8,894 | 8,530 | 8,252 | 7,535 | 7,401 | 7,547 |
| Crude Birth Rate (a) | 25.01 | 23.66 | 22.64 | r 20.48 | r 19.91 | 20.04 |

(a) Births per 1,000 of mean population.

r Revised.

One common observation is that births of males, in total, usually exceed those of females. The next table shows births by sex and indicates masculinity:

Births by Sex and Masculinity

| Particulars | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|--------------------|--------|--------|--------|--------|--------|--------|
| Births of— | | | | | | |
| Males | 4,629 | 4,428 | 4,218 | 3,876 | 3,753 | 3,870 |
| Females | 4,265 | 4,102 | 4,034 | 3,659 | 3,648 | 3,677 |
| Total | 8,894 | 8,530 | 8,252 | 7,535 | 7,401 | 7,547 |
| Masculinity (a) .. | 108.53 | 107.95 | 104.56 | 105.93 | 102.88 | 105.25 |

(a) Number of male births per 100 female births.

In the following table, births are analysed by sex and by the age of the mother and classified as nuptial or ex-nuptial:

Births by Sex, Age of Mother and Nuptial State, 1967

| Age Group of Mothers (Years) | Nuptial | | Ex-Nuptial | | All Births | | |
|------------------------------------|---------|--------|------------|--------|------------|--------|-------|
| | Male | Female | Male | Female | Male | Female | Total |
| 10-14 .. | .. | .. | 2 | 4 | 2 | 4 | 6 |
| 15-19 .. | 416 | 404 | 146 | 125 | 562 | 529 | 1,091 |
| 20-24 .. | 1,294 | 1,291 | 93 | 71 | 1,387 | 1,362 | 2,749 |
| 25-29 .. | 1,034 | 958 | 37 | 35 | 1,071 | 993 | 2,064 |
| 30-34 .. | 509 | 461 | 13 | 14 | 522 | 475 | 997 |
| 35-39 .. | 238 | 219 | 3 | 11 | 241 | 230 | 471 |
| 40-44 .. | 76 | 76 | 4 | 3 | 80 | 79 | 159 |
| 45 and over .. | 5 | 4 | .. | 1 | 5 | 5 | 10 |
| Total .. | 3,572 | 3,413 | 298 | 264 | 3,870 | 3,677 | 7,547 |

In 1967, the 7,547 livebirths were the result of 7,483 confinements. Included in the confinements were 59 cases of twins, and three cases of triplets. ('Confinements' in this context relates only to those resulting in at least one live-birth.)

The table that follows summarises, for a six-year period, births according to whether the child was first-born or the issue of a subsequent birth:

Births of First Born and Subsequent Births; Nuptial State of Mothers

| Classification of Births | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|-------|-------|-------|-------|-------|-------|
| Nuptial— | | | | | | |
| First Born (a) .. | 2,350 | 2,324 | 2,296 | 2,211 | 2,234 | 2,337 |
| Subsequent Birth .. | 6,072 | 5,742 | 5,454 | 4,853 | 4,643 | 4,648 |
| Ex-Nuptial .. | 472 | 464 | 502 | 471 | 524 | 562 |
| Total | 8,894 | 8,530 | 8,252 | 7,535 | 7,401 | 7,547 |
| Ex-Nuptial Births as Percentage of Total Births | 5.3 | 5.4 | 6.1 | 6.3 | 7.1 | 7.4 |

(a) In case of plural births with no previous issue, first child born alive is recorded as 'First Born' and subsequent child or children as 'Subsequent Birth'.

It should be noted that 'first born' in the previous tables refers specifically to the union from which the child originates; thus a mother married for the second time could be credited with a 'first born' child despite issue from the previous union.

Infant Mortality

Infant mortality relates to children dying within one year of birth. The table that follows analyses such deaths in further detail and shows that the greatest mortality rate is associated with infants in their first day of life. To obtain a correct picture of relative risk, it should be noted that deaths in the 'one day and under one week' class are spread over 6 days; in the 'one week and under four weeks' class' spread over 21 days; and in the final class, spread over 337 days.

Infant Mortality—Number of Deaths and Mortality Rates at Specific Ages

| Year | Infant Deaths | | Mortality Rate (a) at Age Specified— | | | |
|---------|---------------|--------------------------|--------------------------------------|---------------------------|---------------------------|------------------------------|
| | Number | Per 1,000 Live Births | Under 1 Day | 1 Day and under 1 Week | 1 Week and under 4 Wks | 4 Weeks and under 12 Mths |
| 1962 .. | 184 | 20.7 | 7 | 5 | 2 | 7 |
| 1963 .. | 153 | 17.9 | 6 | 5 | 1 | 6 |
| 1964 .. | 166 | 20.1 | 6 | 7 | 1 | 6 |
| 1965 .. | 125 | 16.6 | 6 | 4 | 1 | 6 |
| 1966 .. | 108 | 14.6 | 5 | 4 | 1 | 4 |
| 1967 .. | 130 | 17.2 | 5 | 5 | 1 | 6 |

(a) Infant deaths per 1,000 live births; rates have been rounded to whole numbers.

To put current infant mortality rates in their true perspective, it is necessary to refer to rates prevailing at the turn of the century when 100 infant deaths per 1,000 live births was not an uncommon experience. This is discussed in an earlier section headed 'Crude Rate Comparisons'.

Cause of Infant Deaths

The next table shows the causes of infant deaths during the last six years, with specification of groups of items and single items:

Infantile Mortality—Causes of Deaths Under One Year

| | Cause | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------|---|------|------|------|------|------|------|
| 057 | Meningococcal Infections | .. | .. | .. | .. | 1 | .. |
| 001-056 | Other General Diseases (a) | 2 | 4 | 2 | 2 | 1 | 5 |
| 058-326 | | | | | | | |
| 340 | Meningitis | 2 | .. | 2 | 1 | .. | 4 |
| 330-334 | Other Diseases of the Nervous System | 1 | 1 | 2 | 1 | 1 | 1 |
| 341-398 | | | | | | | |
| 400-468 | Diseases of the Circulatory System | .. | 1 | .. | .. | .. | .. |
| 470-475 | Acute Upper Respiratory Infections | .. | .. | .. | .. | .. | 1 |
| 480-483 | Influenza | .. | .. | 1 | .. | .. | .. |
| 490-493 | Pneumonia | 22 | 22 | 18 | 15 | 13 | 17 |
| 500-502 | Bronchitis | 1 | 1 | 1 | 1 | 1 | 1 |
| 510-527 | Other Diseases, Respiratory System | 7 | 3 | 6 | 8 | 2 | 4 |
| 571 | Gastro-Enteritis | 2 | 3 | 3 | 2 | 2 | .. |
| 530-570 | Other Diseases of the Digestive System | 3 | 3 | 4 | 3 | 3 | 1 |
| 572-587 | | | | | | | |
| 590-594 | Nephritis and Nephrosis | .. | .. | .. | .. | .. | .. |
| 600-637 | Other Diseases of the Genito-Urinary System | .. | 1 | 1 | .. | .. | 1 |
| 690-716 | Diseases of the Skin | .. | 1 | .. | .. | .. | .. |
| 720-749 | Diseases of the Bones and Organs of Movement | .. | .. | .. | .. | .. | .. |
| 750-759 | Congenital Malformations | 50 | 35 | 28 | 27 | 14 | 19 |
| 760-769 | Birth Injuries, Asphyxia and Infections of the New-Born | .. | 44 | 34 | 51 | 37 | 38 |
| 770-776 | Other Diseases of Early Infancy | 44 | 38 | 40 | 24 | 37 | 35 |
| 780-795 | Ill-defined Conditions | .. | .. | .. | .. | .. | .. |
| 800-999 | External Causes | 5 | 6 | 7 | 4 | 7 | 3 |
| | Total | 184 | 153 | 166 | 125 | 108 | 130 |

(a) Principally infective and parasitic diseases.

All death statistics, including those relating to infant mortality, are compiled in accordance with the Seventh Revision (1955) of the International List of Causes of Death (World Health Organisation).

Deaths

The following table summarises the number of deaths and crude death rates since 1880:

Number of Deaths and Crude Death Rates, Selected Years from 1880

| Year | Deaths | | Year | Deaths | |
|---------|--------|------------------------------|---------|--------|------------------------------|
| | Number | Per 1,000 of Mean Population | | Number | Per 1,000 of Mean Population |
| 1880 .. | 1,832 | 16.12 | 1930 .. | 1,948 | 8.82 |
| 1885 .. | 2,036 | 15.94 | 1935 .. | 2,353 | 10.24 |
| 1890 .. | 2,118 | 14.79 | 1940 .. | 2,387 | 9.90 |
| 1895 .. | 1,811 | 11.78 | 1945 .. | 2,413 | 9.71 |
| 1900 .. | 1,903 | 11.02 | 1950 .. | 2,466 | 8.85 |
| 1905 .. | 1,844 | 10.00 | 1955 .. | 2,489 | 7.89 |
| 1910 .. | 2,120 | 11.10 | 1960 .. | 2,670 | 7.70 |
| 1915 .. | 2,015 | 10.27 | 1965 .. | 3,043 | 8.27 |
| 1920 .. | 2,036 | 9.68 | 1966 .. | 3,159 | 8.50 |
| 1925 .. | 1,996 | 9.26 | 1967 .. | 3,228 | 8.57 |

A marked difference exists between male and female crude death rates:

Male and Female Deaths and Crude Rates

| Year | Number of Deaths | | | Deaths Per 1,000 of Mean Population | | | Ratio of Male to Female Crude Death Rates |
|---------|------------------|---------|---------|-------------------------------------|---------|---------|---|
| | Males | Females | Persons | Males | Females | Persons | |
| 1957 .. | 1,514 | 1,156 | 2,670 | 9.06 | 7.17 | 8.13 | 1.263 |
| 1958 .. | 1,534 | 1,174 | 2,708 | 9.01 | 7.11 | 8.07 | 1.267 |
| 1959 .. | 1,553 | 1,227 | 2,780 | 8.97 | 7.29 | 8.14 | 1.230 |
| 1960 .. | 1,546 | 1,124 | 2,670 | 8.79 | 6.57 | 7.70 | 1.338 |
| 1961 .. | 1,601 | 1,188 | 2,789 | 8.96 | 6.79 | 7.89 | 1.320 |
| 1962 .. | 1,622 | 1,248 | 2,870 | 9.01 | 7.10 | 8.07 | 1.269 |
| 1963 .. | 1,601 | 1,217 | 2,818 | 8.75 | 6.83 | 7.82 | 1.281 |
| 1964 .. | 1,797 | 1,377 | 3,174 | 9.76 | 7.64 | 8.71 | 1.277 |
| 1965 .. | 1,716 | 1,327 | 3,043 | 9.24 | 7.29 | 8.27 | 1.267 |
| 1966 .. | 1,726 | 1,433 | 3,159 | 9.21 | 7.79 | 8.50 | 1.182 |
| 1967 .. | 1,790 | 1,438 | 3,228 | 9.42 | 7.71 | 8.57 | 1.222 |

In the following table, crude death rates for Tasmania are compared with those of the continental States:

Australian States—Crude Death Rates (a)

| State | 1921 (b) | 1933 (b) | 1947 (b) | 1954 (b) | 1961 (b) | 1966 (b) | 1967 (c) |
|------------------|----------|----------|----------|----------|----------|----------|----------|
| N.S.W. .. | 9.50 | 8.58 | 9.53 | 9.46 | 8.95 | 9.58 | 9.19 |
| Victoria .. | 10.52 | 9.59 | 10.44 | 9.20 | 8.37 | 8.91 | 8.66 |
| Queensland .. | 9.37 | 8.83 | 9.15 | 8.64 | 8.42 | 8.94 | 8.65 |
| S.A. .. | 10.02 | 8.44 | 9.62 | 9.02 | 8.06 | 8.55 | 8.16 |
| W.A. .. | 10.42 | 8.64 | 9.39 | 8.38 | 7.77 | 8.10 | 7.73 |
| Tasmania .. | 10.30 | 9.60 | 9.17 | 8.67 | 7.89 | 8.50 | 8.57 |
| Australia (d) .. | 9.91 | 8.92 | 9.69 | 9.10 | 8.47 | 9.00 | 8.69 |

(a) Deaths per 1,000 of mean population.

(b) Census year.

(c) Aboriginal deaths included (repeal of Section 127 of Constitution).

(d) Includes A.C.T. and N.T.

Death Rates for Specific Age Groups

Previously in this chapter, crude death rates were described as unsuitable for comparisons over long periods of time due to changes in the age structure of the community. In the following table, this difficulty is overcome by calculating death rates for specific age groups. The method employed is to obtain the average annual deaths for specific age groups over those three-year periods which are broken in equal parts by a census of population (e.g. 30 June 1933 is the census date for a calculation of rates in the three years 1932-1934 inclusive). Rates can then be calculated by comparing the average number of deaths for each group with the number of persons in each group as revealed by the census. In theory, the calculation of such rates need not be restricted to periods for which a census date forms the midpoint but the advantage of accepting such restriction lies in the accuracy of the age distribution obtained from the census. In the table, three-year periods have been selected appropriate to the censuses of 1933 and 1961 (the data relate to the Tasmanian population):

Death Rates for Specific Age Groups (a)

| Age Group (Years) | Males | | Females | | Persons | |
|----------------------|---------|---------|---------|---------|---------|---------|
| | 1932-34 | 1960-62 | 1932-34 | 1960-62 | 1932-34 | 1960-62 |
| 0- 4 | 12.77 | 5.25 | 10.42 | 4.33 | 11.62 | 4.81 |
| 5- 9 | 2.08 | 0.63 | 1.54 | 0.33 | 1.81 | 0.48 |
| 10-14 | 1.27 | 0.43 | 0.91 | 0.35 | 1.09 | 0.39 |
| 15-19 | 2.05 | 1.30 | 2.22 | 0.56 | 2.14 | 0.94 |
| 20-24 | 2.73 | 1.60 | 2.58 | 0.36 | 2.66 | 0.99 |
| 25-29 | 2.98 | 1.67 | 3.74 | 0.56 | 3.35 | 1.13 |
| 30-34 | 3.78 | 1.23 | 3.63 | 0.84 | 3.71 | 1.05 |
| 35-39 | 4.71 | 1.90 | 4.43 | 1.65 | 4.56 | 1.78 |
| 40-44 | 4.85 | 3.62 | 4.88 | 1.92 | 4.86 | 2.78 |
| 45-49 | 6.90 | 5.33 | 5.44 | 3.76 | 6.19 | 4.57 |
| 50-54 | 9.96 | 9.18 | 10.08 | 5.14 | 10.02 | 7.25 |
| 55-59 | 14.47 | 16.12 | 11.62 | 7.98 | 13.09 | 12.23 |
| 60-64 | 23.92 | 26.21 | 16.87 | 13.65 | 20.52 | 19.72 |
| 65-69 | 35.11 | 39.64 | 30.46 | 21.74 | 32.87 | 29.72 |
| 70-74 | 59.22 | 65.56 | 48.31 | 37.48 | 53.89 | 49.91 |
| 75-79 | 94.23 | 94.25 | 83.58 | 62.47 | 88.97 | 76.57 |
| 80-84 | 160.80 | 130.89 | 125.15 | 107.61 | 142.64 | 117.12 |
| 85-89 | 204.45 | 198.46 | 195.28 | 154.97 | 199.07 | 173.40 |
| 90 and over | 401.97 | 407.69 | 363.63 | 276.59 | 376.36 | 323.29 |

(a) Rate per 1,000 of the population in the specified age group at census date.

While specific death rates for females in the age groups 55-74 years have decreased in the period covered by the table, corresponding rates for males in the same age groups have actually increased. Attention is also called to the differential rates applying to males and females in age groups 15-34 for the period 1960-62.

A later section of this chapter is headed 'Expectation of Life and Life Tables'. The theory of constructing life tables can be related to the table above, the major difference being that the former depend on the calculation of differential rates for each year, and not for five-year age groups.

Causes of Death

The Sixth (1948) Revision of the International List of Causes of Death was adopted for use in classifying causes of death in 1950.

The Revision introduced international rules for a uniform method of selecting the underlying cause of death to be tabulated if more than one cause

is stated on the death certificate. The adoption of the 1948 revision affected the comparability of statistics for years prior to 1950 with those for 1950 and subsequent years.

The Seventh (1955) Revision of the International List of Causes of Death was adopted for use in 1958 but has not materially affected comparability. The causes of deaths registered in Tasmania classified according to the abbreviated list of the Seventh (1955) Revision, the rates per 100,000 of mean population and the proportion of deaths from each cause are shown in the following table. The system of classification is under continuous scrutiny and the Eighth Revision will become operative on 1 January 1968.

Causes of Death: Numbers and Rates, 1967

| Cause of Death | Detailed List Numbers | Number of Deaths | Rate per 100,000 of Mean Population | Percentage of Total Deaths |
|--|-----------------------|------------------|-------------------------------------|----------------------------|
| 1. Tuberculosis of Respiratory System | 001-008 | 6 | 2 | 0.19 |
| 2. Tuberculosis, Other Forms | 010-019 | 1 | .. | 0.03 |
| 3. Syphilis and its Sequelae | 020-029 | 1 | .. | 0.03 |
| 4-16 (a) | (a) | 3 | 1 | 0.09 |
| 17. All Other Diseases Classified as Infective and Parasitic | (b) | 13 | 3 | 0.40 |
| 18. Malignant Neoplasms | | | | |
| Digestive Organs and Peritoneum | 150-159 | 190 | 50 | 5.89 |
| Lung | 162, 163 | 82 | 22 | 2.54 |
| Breast | 170 | 48 | 13 | 1.49 |
| Genital Organs | 171-179 | 63 | 17 | 1.95 |
| Urinary Organs | 180, 181 | 17 | 5 | 0.53 |
| Leukaemia and Aleukaemia | 204 | 31 | 8 | 0.96 |
| Other Malignant and Lymphatic Neoplasms | (c) | 98 | 26 | 3.04 |
| 19. Benign and Unspecified Neoplasms | 210-239 | 4 | 1 | 0.12 |
| 20. Diabetes Mellitus | 260 | 39 | 10 | 1.21 |
| 21. Anaemias | 290-293 | 10 | 3 | 0.31 |
| 22. Vascular Lesions Affecting Central Nervous System | 330-334 | 376 | 100 | 11.65 |
| 23. Non-Meningococcal Meningitis | 340 | 6 | 2 | 0.19 |
| 24. Rheumatic Fever | 400-402 | 1 | .. | 0.03 |
| 25. Chronic Rheumatic Heart Disease | 410-416 | 20 | 5 | 0.62 |
| 26. Arteriosclerotic Heart Disease | 420 | 859 | 228 | 26.61 |
| Degenerative Heart Disease | 421, 422 | 90 | 24 | 2.79 |
| 27. Other Diseases of the Heart | 430-434 | 124 | 33 | 3.84 |
| 28. Hypertension with Heart Disease | 440-443 | 42 | 11 | 1.30 |
| 29. Hypertension without mention of Heart | 444-447 | 26 | 7 | 0.81 |
| 30. Influenza | 480-483 | 1 | .. | 0.03 |
| 31. Pneumonia | 490-493 | 134 | 36 | 4.15 |
| 32. Bronchitis | 500-502 | 88 | 23 | 2.73 |
| 33. Ulcer of Stomach and Duodenum | 540, 541 | 23 | 6 | 0.71 |
| 34. Appendicitis | 550-553 | 2 | 1 | 0.06 |
| 35. Intestinal Obstruction and Hernia | 560, 561, 570 | 13 | 3 | 0.40 |
| 36. Gastritis, Duodenitis, Enteritis and Colitis except Diarrhoea of the Newborn | 543, 571, 572 | 11 | 3 | 0.34 |
| 37. Cirrhosis of Liver | 581 | 14 | 4 | 0.43 |
| 38. Nephritis and Nephrosis | 590-594 | 29 | 8 | 0.90 |
| 39. Hyperplasia of Prostate | 610 | 12 | 3 | 0.37 |
| 40. Complications of Pregnancy, Childbirth and the Puerperium | 640-652, 660, | | | |
| 41. Congenital Malformations | 670-689 | 2 | 1 | 0.06 |
| 42. Birth Injuries, Post-Natal Asphyxia and Atelectasis | 750-759 | 32 | 8 | 0.99 |
| 43. Infections of the Newborn | 760-762 | 34 | 9 | 1.05 |
| 44. Other Diseases Peculiar to Early Infancy and Immaturity Unqualified | 763-768 | 2 | 1 | 0.06 |
| | 769-776 | 38 | 10 | 1.18 |

Causes of Death: Numbers and Rates, 1967—*continued*

| Cause of Death | Detailed List Numbers | Number of Deaths | Rate per 100,000 of Mean Population | Percentage of Total Deaths |
|---|--------------------------|------------------|-------------------------------------|----------------------------|
| 45. Senility without mention of Psychosis, Ill-defined and Unknown Causes | 780-795 | 12 | 3 | 0.37 |
| General Arteriosclerosis | 450 | 71 | 19 | 2.20 |
| Other Diseases of Circulatory System .. | 451-468 | 41 | 11 | 1.27 |
| 46. Other Diseases of Respiratory System .. | 470-475, 510-527 | 26 | 7 | 0.81 |
| All Other Diseases | Residual | 170 | 45 | 5.27 |
| 47. Motor Vehicle Accidents | E810-E835 | 103 | 27 | 3.19 |
| 48. All Other Accidents | E800-E802, E840-E962 | 168 | 45 | 5.20 |
| 49. Suicide and Self-inflicted Injuries | E963, E970 -E979 | 48 | 13 | 1.49 |
| 50. Homicide and Operations of War | E964, E965, E980-E999 | 4 | 1 | 0.12 |
| All Causes | .. | 3,228 | 857 | 100.00 |

(a) 040, 043, 045-048, 050, 051, 055-058, 080, 084, 085, 100-108, 110-117.

(b) 030-039, 041, 042, 044, 052-054, 059-074, 081-083, 086-096, 120-138.

(c) 140-148, 160, 161, 164, 165, 190-203, 205.

It will be noted that Items 4-16 in the table were not listed individually, few associated deaths having been recorded. The specification of causes reads: (4) Typhoid Fever; (5) Cholera; (6) Dysentery, All Forms; (7) Scarlet Fever and Streptococcal Sore Throat; (8) Diphtheria; (9) Whooping Cough; (10) Meningococcal Infections; (11) Plague; (12) Acute Poliomyelitis; (13) Smallpox; (14) Measles; (15) Typhus and Other Rickettsial Diseases; (16) Malaria. Uncertainty as to diagnosis in earlier periods makes comparison difficult but, at the turn of the century, whooping cough, diphtheria, typhoid fever and scarlet fever were diseases associated with numerous deaths.

Causes of Death in Age Groups

The previous table showing causes of death makes no reference to age, a complete dissection by age and cause being beyond the scope of a year book. Nevertheless, there is an extremely significant relationship between age and cause of death and the next table indicates, in summary form, their close inter-connection.

For each of the specified causes in the table, two percentages are shown:

- (i) Deaths in a particular age group as a proportion of total deaths from all causes in that age-group.
- (ii) Deaths in a particular age group as a proportion of total deaths from the same cause at all ages.

The causes chosen and specified are such that they account, in total, for approximately 75 per cent or more of deaths in most of the given age groups.

Attention is called to 'Accidental and Violent Deaths' (800-999) which account for over 50 per cent of deaths in the age groups from 5-14 years to 25-34 years inclusive. Also noteworthy is the present relative unimportance of 'Infective and Parasitic Diseases' (001-138). The most important group, in a total sense, is 'Diseases of the Heart' (401, 410-443) followed by 'Malignant Neoplasms—All Forms' (140-205); then 'Vascular Lesions Affecting Central Nervous System' (330-334) followed by 'Pneumonia, Bronchitis and Influenza'

(480-502, 763); nevertheless, the inter-connection between age and cause of death is so close that none of these causes needs to be specified for some age-groups in the table.

Main Causes of Death (in Age Groups), 1967

| Detailed List Numbers | Age Group and Cause of Death | Deaths from Specified Cause | | | |
|--|---|-----------------------------|----------|-------------|-----------------|
| | | In Age Group | | At All Ages | |
| | | Number | Per Cent | Number | Per Cent (a) |
| 762 750-759 760, 761 774-776 480-502, 763 .. | Under One Year: | 130 | 100.0 | .. | .. |
| | Post-natal asphyxia and atelectasis | 26 | 20.0 | 26 | 100.0 |
| | Congenital malformations .. | 19 | 14.6 | 32 | 59.4 |
| | Birth injuries | 8 | 6.2 | 8 | 100.0 |
| | Immaturity | 29 | 22.3 | 29 | 100.0 |
| | Pneumonia, bronchitis and influenza | 20 | 15.4 | 225 | 8.9 |
| | Other causes | 28 | 21.5 | .. | .. |
| 800-999 750-759 140-205 480-502 001-138 .. | 1-4 years: | 31 | 100.0 | .. | .. |
| | Accidental and violent deaths .. | 11 | 35.5 | 323 | 3.4 |
| | Congenital malformations .. | 4 | 12.9 | 32 | 12.5 |
| | Cancer (all forms) (b) | 3 | 9.7 | 529 | 0.6 |
| | Pneumonia, bronchitis and influenza | 3 | 9.7 | 223 | 1.3 |
| | Infective and parasitic diseases .. | 5 | 16.1 | 24 | 20.8 |
| | Other causes | 5 | 16.1 | .. | .. |
| 800-999 140-205 480-502 .. | 5-14 years: | 41 | 100.0 | .. | .. |
| | Accidental and violent deaths .. | 24 | 58.5 | 323 | 7.4 |
| | Cancer (all forms) (b) | 8 | 19.5 | 529 | 1.5 |
| | Pneumonia, bronchitis and influenza | 1 | 2.5 | 223 | 0.4 |
| | Other causes | 8 | 19.5 | .. | .. |
| 800-999 140-205 750-759 .. | 15-19 Years: | 37 | 100.0 | .. | .. |
| | Accidental and violent deaths .. | 30 | 81.1 | 323 | 9.3 |
| | Cancer (all forms) (b) | 1 | 2.7 | 529 | 0.2 |
| | Congenital malformations .. | .. | .. | 32 | .. |
| | Other causes | 6 | 16.2 | .. | .. |
| 800-999 140-205 750-759 .. | 20-24 Years: | 39 | 100.0 | .. | .. |
| | Accidental and violent deaths .. | 30 | 76.9 | 323 | 9.3 |
| | Cancer (all forms) (b) | 3 | 7.7 | 529 | 0.6 |
| | Congenital malformations .. | .. | .. | 32 | .. |
| | Other causes | 6 | 15.4 | .. | .. |
| 800-999 140-205 401, 410-443 001-138 .. | 25-34 Years: | 72 | 100.0 | .. | .. |
| | Accidental and violent deaths .. | 41 | 56.9 | 323 | 12.7 |
| | Cancer (all forms) (b) | 10 | 13.9 | 529 | 1.9 |
| | Diseases of the heart | 5 | 6.9 | 1,136 | 0.4 |
| | Infective and parasitic diseases .. | .. | .. | 24 | .. |
| | Other causes | 16 | 22.2 | .. | .. |
| 800-999 140-205 401, 410-443 480-502 001-138 .. | 35-44 Years: | 117 | 100.0 | .. | .. |
| | Accidental and violent deaths .. | 34 | 29.1 | 323 | 10.5 |
| | Cancer (all forms) (b) | 23 | 19.7 | 529 | 4.3 |
| | Diseases of the heart | 23 | 19.7 | 1,136 | 2.0 |
| | Pneumonia, bronchitis and influenza | 4 | 3.4 | 223 | 1.8 |
| | Infective and parasitic diseases .. | 2 | 1.7 | 24 | 8.3 |
| | Other causes | 31 | 26.5 | .. | .. |
| 401, 410-443 140-205 800-999 330-334 480-502 .. | 45-54 Years: | 256 | 100.0 | .. | .. |
| | Diseases of the heart | 90 | 35.2 | 1,136 | 7.9 |
| | Cancer (all forms) (b) | 67 | 26.2 | 529 | 12.7 |
| | Accidental and violent deaths .. | 33 | 12.9 | 323 | 10.2 |
| | Vascular lesions affecting central nervous system | 12 | 4.7 | 376 | 3.2 |
| | Pneumonia, bronchitis and influenza | 9 | 3.5 | 223 | 4.0 |
| | Other causes | 45 | 17.6 | .. | .. |

Main Causes of Death (in Age Groups), 1967—continued

| Detailed List Numbers | Age Group and Cause of Death | Deaths from Specified Cause | | | |
|--|---|--|--|---|--|
| | | In Age Group | | At All Ages | |
| | | Number | Per Cent | Number | Per Cent (a) |
| 401, 410-443 140-205 330-334 | 55-64 Years: Diseases of the heart Cancer (all forms) (b) Vascular lesions affecting central nervous system Accidental and violent deaths .. Pneumonia, bronchitis and influenza .. Other causes | 516 213 110 47 43 20 83 | 100.0 41.3 21.3 9.1 8.3 3.9 16.1 | 1,136 529 .. 376 323 223 .. | 18.8 20.8 .. 12.5 13.3 9.0 .. |
| 800-999 480-502 .. | 65-74 Years: Diseases of the heart Cancer (all forms) (b) Vascular lesions affecting central nervous system Pneumonia, bronchitis and influenza .. Accidental and violent deaths .. Other causes | 740 332 129 91 40 27 121 | 100.0 44.9 17.4 12.3 5.4 3.6 16.4 | 1,136 529 .. 376 223 323 .. | 29.2 24.4 .. 24.2 17.9 8.4 .. |
| 401, 410-443 330-334 140-205 450-456 480-502 | 75 Years and Over: Diseases of the heart Vascular lesions affecting central nervous system Cancer (all forms) (b) Diseases of arteries Pneumonia, bronchitis and influenza .. Other causes | 1,249 473 212 174 65 127 198 | 100.0 37.9 17.0 13.9 5.2 10.2 15.9 | 1,136 .. 376 529 89 223 .. | 41.6 .. 56.4 32.9 73.0 57.0 .. |

(a) Deaths in the specified age group as a percentage of total deaths for a particular cause.
 (b) Includes Hodgkin's disease and the leukaemias.

Heart Diseases

As the previous table indicates, heart diseases (list items 401, 410-443) are the greatest single cause of death. In the following record of deaths due to heart diseases, 1950 has been chosen as a start-point since earlier figures are not strictly comparable:

Deaths from Heart Diseases (All Causes) (a)

| Year | Number of Deaths | | | Death Rate Per 100,000 of Mean Population | Deaths as a Percentage of Deaths from All Causes |
|---------|------------------|---------|---------|---|--|
| | Males | Females | Persons | | |
| 1950 .. | 413 | 304 | 717 | 257 | 29.1 |
| 1962 .. | 622 | 405 | 1,027 | 289 | 35.8 |
| 1963 .. | 599 | 426 | 1,025 | 284 | 36.4 |
| 1964 .. | 677 | 454 | 1,131 | 310 | 35.6 |
| 1965 .. | 701 | 458 | 1,159 | 315 | 38.1 |
| 1966 .. | 656 | 464 | 1,120 | r 301 | 35.5 |
| 1967 .. | 663 | 473 | 1,136 | 302 | 35.2 |

(a) List items 401, 410-443.

r Revised.

Tuberculosis

A development of recent years has been the marked decline in deaths attributed to tuberculosis. In the following table, 1950 has been chosen as

the start-point, earlier figures being not strictly comparable due to changes in classification and in the method of determining a single cause of death where multiple causes are shown on the death certificate.

Deaths from Tuberculosis (All Forms) (a)

| Year | Number of Deaths | | | Death Rate Per 100,000 of Mean Population | Deaths as a Percentage of Deaths from All Causes |
|---------|------------------|---------|---------|---|--|
| | Males | Females | Persons | | |
| 1950 .. | 27 | 44 | 71 | 25 | 2.9 |
| 1962 .. | 11 | 1 | 12 | 3 | 0.4 |
| 1963 .. | 10 | 4 | 14 | 4 | 0.5 |
| 1964 .. | 10 | 1 | 11 | 3 | 0.3 |
| 1965 .. | 6 | 3 | 9 | 2 | 0.3 |
| 1966 .. | 6 | 5 | 11 | 3 | 0.3 |
| 1967 .. | 4 | 3 | 7 | 2 | 0.2 |

(a) List items 001-019.

Malignant Neoplasms

In the next table, deaths attributed to list items 140-205 are analysed, the causes being summarised as 'Malignant Neoplasms including Hodgkin's Disease and the Leukaemias':

Deaths from Malignant Neoplasms (All Causes) (a)

| Year | Number of Deaths | | | Death Rate Per 100,000 of Mean Population | Deaths as a Percentage of Deaths from All Causes |
|---------|------------------|---------|---------|---|--|
| | Males | Females | Persons | | |
| 1950 .. | 159 | 164 | 323 | 115 | 13.1 |
| 1962 .. | 263 | 203 | 466 | 131 | 16.2 |
| 1963 .. | 207 | 211 | 418 | 116 | 14.8 |
| 1964 .. | 230 | 221 | 451 | 124 | 14.2 |
| 1965 .. | 246 | 233 | 479 | 130 | 15.7 |
| 1966 .. | 251 | 245 | 496 | r 133 | 15.7 |
| 1967 .. | 302 | 227 | 529 | 140 | 16.4 |

(a) List items 140-205.

r Revised.

Lung Cancer

There has been considerable interest recently in lung cancer because of its suspected connection with smoking habits. The following table shows deaths attributed to 'Malignant Neoplasm of Respiratory System' (160-165) since 1950:

Deaths from Malignant Neoplasm of Respiratory System

| Year | Deaths, List Items 160-165 | | | Year | Deaths, List Items 160-165 | | |
|---------|----------------------------|---------|---------|---------|----------------------------|---------|---------|
| | Males | Females | Persons | | Males | Females | Persons |
| 1950 .. | 20 | 4 | 24 | 1960 .. | 40 | 3 | 43 |
| 1953 .. | 19 | 1 | 20 | 1961 .. | 47 | 3 | 50 |
| 1954 .. | 23 | 5 | 28 | 1962 .. | 70 | 8 | 78 |
| 1955 .. | 33 | 7 | 40 | 1963 .. | 44 | 9 | 53 |
| 1956 .. | 35 | 9 | 44 | 1964 .. | 51 | 16 | 67 |
| 1957 .. | 43 | 7 | 50 | 1965 .. | 60 | 11 | 71 |
| 1958 .. | 29 | 10 | 39 | 1966 .. | 76 | 16 | 92 |
| 1959 .. | 43 | 11 | 54 | 1967 .. | 78 | 9 | 87 |

Expectation of Life and Life Tables

Previously reference was made to the limitations of crude death rates as a measure of mortality. However, a correct measurement of the mortality of the population can be obtained from life tables.

A life table is, in effect, a mathematical model, its starting point being a hypothetical population (say 100,000) of newly-born males or females. Using data for a given period (e.g. single year age distribution of an actual population, deaths at single ages, etc.), the compiler calculates the theoretical number of survivors at each age in the hypothetical population until there are no survivors remaining.

In the table that follows, l_x is the number of persons surviving at exact age x . From this survivors' table, other measures can then be computed, namely:

L_x : the average number living between any year x and $x + 1$

e^{o_x} : the complete expectation of life (i.e. the average number of years lived after age x by each of a group of persons aged exactly x).

Not only does the l_x column give numbers of survivors at each age but, if accumulated, it gives an approximate measure of the total number of years lived by the life-table population. To obtain a more refined measure of the total number of years lived, it is necessary to accumulate L_x values. These can be obtained by averaging each consecutive pair of l_x values.

Taking the male life table as an example:

Total of all l_x values (0-105) = 6,841,916 years

Total of all l_{x+1} values (1-105) = 6,741,916 years

Therefore, total L_x values (0-105) = 6,791,916 years

According to the table, 100,000 males live a total of 6,791,916 years. It follows, then, that the complete expectation of life (e^{o_x}) can be taken as 67.92 years as from birth.

The above calculation shows the derivation of e^{o_x} where x is 0. The same logic applies to all other ages:

Again taking the male life table as an example:

Total of l_x values (10-105) = 5,865,686 years

Total of all l_{x+1} values (11-105) = 5,768,624 years

Therefore, total L_x values (10-105) = 5,817,155 years

According to the table, 97,062 males live a total of a further 5,817,155 years. It follows then that each male aged 10 has an average life expectancy of a further 59.93 years (i.e. $\frac{5,817,155}{97,062}$)

From these examples, it will be seen that e^{o_x} is simply an average or per capita figure, the two elements involved being the total number of years lived by a given population and the given population itself.

For the sake of brevity in the table, the following usual values have not been given:

d_x ; the number of deaths in the year of age x to $x + 1$ among the l_x persons who enter on that year.

p_x ; the probability of a person aged x living a year.

q_x ; the probability of a person aged x dying within a year.

If required, these values can be computed from the tables as follows:

$$d_x = l_x - l_{x+1}$$

$$p_x = \frac{l_{x+1}}{l_x}$$

and $q_x = 1 - p_x$

Australia: Life Tables, 1960-62
Survivors (l_x) and Complete Expectation of Life ($e^{\circ}x$)

Males

| Age x | l_x | $e^{\circ}x$ | Age x | l_x | $e^{\circ}x$ | Age x | l_x | $e^{\circ}x$ |
|---------|---------|--------------|---------|--------|--------------|---------|--------|--------------|
| 0 .. | 100,000 | 67.92 | 35 .. | 93,931 | 36.45 | 70 .. | 54,944 | 9.77 |
| 1 .. | 97,761 | 68.46 | 36 .. | 93,749 | 35.51 | 71 .. | 52,100 | 9.27 |
| 2 .. | 97,584 | 67.59 | 37 .. | 93,554 | 34.59 | 72 .. | 49,168 | 8.80 |
| 3 .. | 97,467 | 66.67 | 38 .. | 93,343 | 33.67 | 73 .. | 46,160 | 8.34 |
| 4 .. | 97,379 | 65.73 | 39 .. | 93,112 | 32.75 | 74 .. | 43,092 | 7.90 |
| 5 .. | 97,315 | 64.77 | 40 .. | 92,859 | 31.84 | 75 .. | 39,984 | 7.47 |
| 6 .. | 97,259 | 63.81 | 41 .. | 92,580 | 30.93 | 76 .. | 36,860 | 7.06 |
| 7 .. | 97,206 | 62.84 | 42 .. | 92,274 | 30.03 | 77 .. | 33,745 | 6.67 |
| 8 .. | 97,154 | 61.87 | 43 .. | 91,938 | 29.14 | 78 .. | 30,661 | 6.29 |
| 9 .. | 97,105 | 60.91 | 44 .. | 91,569 | 28.25 | 79 .. | 27,629 | 5.92 |
| 10 .. | 97,062 | 59.93 | 45 .. | 91,165 | 27.38 | 80 .. | 24,669 | 5.57 |
| 11 .. | 97,022 | 58.96 | 46 .. | 90,723 | 26.51 | 81 .. | 21,803 | 5.24 |
| 12 .. | 96,981 | 57.98 | 47 .. | 90,238 | 25.65 | 82 .. | 19,054 | 4.92 |
| 13 .. | 96,936 | 57.01 | 48 .. | 89,705 | 24.80 | 83 .. | 16,448 | 4.63 |
| 14 .. | 96,885 | 56.04 | 49 .. | 89,118 | 23.96 | 84 .. | 14,008 | 4.35 |
| 15 .. | 96,825 | 55.07 | 50 .. | 88,473 | 23.13 | 85 .. | 11,758 | 4.08 |
| 16 .. | 96,752 | 54.11 | 51 .. | 87,762 | 22.31 | 86 .. | 9,716 | 3.84 |
| 17 .. | 96,660 | 53.16 | 52 .. | 86,979 | 21.51 | 87 .. | 7,897 | 3.61 |
| 18 .. | 96,541 | 52.23 | 53 .. | 86,119 | 20.72 | 88 .. | 6,306 | 3.40 |
| 19 .. | 96,384 | 51.31 | 54 .. | 85,175 | 19.94 | 89 .. | 4,943 | 3.20 |
| 20 .. | 96,215 | 50.40 | 55 .. | 84,142 | 19.18 | 90 .. | 3,800 | 3.02 |
| 21 .. | 96,049 | 49.49 | 56 .. | 83,015 | 18.43 | 91 .. | 2,862 | 2.85 |
| 22 .. | 95,886 | 48.57 | 57 .. | 81,790 | 17.70 | 92 .. | 2,111 | 2.70 |
| 23 .. | 95,728 | 47.65 | 58 .. | 80,459 | 16.99 | 93 .. | 1,524 | 2.55 |
| 24 .. | 95,577 | 46.73 | 59 .. | 79,017 | 16.29 | 94 .. | 1,076 | 2.42 |
| 25 .. | 95,432 | 45.80 | 60 .. | 77,456 | 15.60 | 95 .. | 742 | 2.29 |
| 26 .. | 95,292 | 44.86 | 61 .. | 75,771 | 14.94 | 96 .. | 500 | 2.17 |
| 27 .. | 95,154 | 43.93 | 62 .. | 73,954 | 14.29 | 97 .. | 329 | 2.06 |
| 28 .. | 95,014 | 42.99 | 63 .. | 72,002 | 13.67 | 98 .. | 211 | 1.96 |
| 29 .. | 94,871 | 42.06 | 64 .. | 69,915 | 13.06 | 99 .. | 132 | 1.86 |
| 30 .. | 94,726 | 41.12 | 65 .. | 67,699 | 12.47 | 100 .. | 80 | .. |
| 31 .. | 94,577 | 40.18 | 66 .. | 65,361 | 11.90 | 101 .. | 47 | .. |
| 32 .. | 94,425 | 39.25 | 67 .. | 62,910 | 11.34 | 102 .. | 27 | .. |
| 33 .. | 94,267 | 38.31 | 68 .. | 60,353 | 10.80 | 103 .. | 15 | .. |
| 34 .. | 94,103 | 37.38 | 69 .. | 57,696 | 10.28 | 104 .. | 8 | .. |

Australia: Life Tables, 1960-62
Survivors (l_x) and Complete Expectation of Life ($e^{\circ}x$)
Females

| Age x | l_x | $e^{\circ}x$ | Age x | l_x | $e^{\circ}x$ | Age x | l_x | $e^{\circ}x$ |
|---------|---------|--------------|---------|--------|--------------|---------|--------|--------------|
| 0 .. | 100,000 | 74.18 | 35 .. | 96,183 | 41.70 | 70 .. | 72,505 | 12.19 |
| 1 .. | 98,243 | 74.49 | 36 .. | 96,065 | 40.75 | 71 .. | 70,378 | 11.54 |
| 2 .. | 98,074 | 73.62 | 37 .. | 95,936 | 39.81 | 72 .. | 68,079 | 10.92 |
| 3 .. | 97,974 | 72.70 | 38 .. | 95,797 | 38.86 | 73 .. | 65,600 | 10.31 |
| 4 .. | 97,911 | 71.74 | 39 .. | 95,646 | 37.92 | 74 .. | 62,939 | 9.72 |
| 5 .. | 97,854 | 70.78 | 40 .. | 95,481 | 36.99 | 75 .. | 60,096 | 9.16 |
| 6 .. | 97,805 | 69.82 | 41 .. | 95,302 | 36.06 | 76 .. | 57,077 | 8.62 |
| 7 .. | 97,762 | 68.85 | 42 .. | 95,107 | 35.13 | 77 .. | 53,888 | 8.10 |
| 8 .. | 97,725 | 67.88 | 43 .. | 94,893 | 34.21 | 78 .. | 50,543 | 7.60 |
| 9 .. | 97,693 | 66.90 | 44 .. | 94,658 | 33.29 | 79 .. | 47,058 | 7.13 |
| 10 .. | 97,664 | 65.92 | 45 .. | 94,400 | 32.38 | 80 .. | 43,453 | 6.68 |
| 11 .. | 97,637 | 64.94 | 46 .. | 94,117 | 31.48 | 81 .. | 39,756 | 6.25 |
| 12 .. | 97,611 | 63.95 | 47 .. | 93,809 | 30.58 | 82 .. | 36,006 | 5.85 |
| 13 .. | 97,584 | 62.97 | 48 .. | 93,474 | 29.69 | 83 .. | 32,247 | 5.47 |
| 14 .. | 97,556 | 61.99 | 49 .. | 93,109 | 28.80 | 84 .. | 28,530 | 5.12 |
| 15 .. | 97,525 | 61.01 | 50 .. | 92,713 | 27.92 | 85 .. | 24,909 | 4.79 |
| 16 .. | 97,488 | 60.03 | 51 .. | 92,283 | 27.05 | 86 .. | 21,440 | 4.49 |
| 17 .. | 97,443 | 59.06 | 52 .. | 91,817 | 26.18 | 87 .. | 18,174 | 4.20 |
| 18 .. | 97,391 | 58.09 | 53 .. | 91,314 | 25.32 | 88 .. | 15,158 | 3.94 |
| 19 .. | 97,335 | 57.12 | 54 .. | 90,773 | 24.47 | 89 .. | 12,427 | 3.70 |
| 20 .. | 97,278 | 56.16 | 55 .. | 90,191 | 23.63 | 90 .. | 10,005 | 3.48 |
| 21 .. | 97,220 | 55.19 | 56 .. | 89,566 | 22.79 | 91 .. | 7,905 | 3.27 |
| 22 .. | 97,161 | 54.22 | 57 .. | 88,895 | 21.96 | 92 .. | 6,125 | 3.08 |
| 23 .. | 97,101 | 53.26 | 58 .. | 88,171 | 21.13 | 93 .. | 4,650 | 2.91 |
| 24 .. | 97,042 | 52.29 | 59 .. | 87,388 | 20.32 | 94 .. | 3,457 | 2.74 |
| 25 .. | 96,984 | 51.32 | 60 .. | 86,537 | 19.51 | 95 .. | 2,515 | 2.59 |
| 26 .. | 96,924 | 50.35 | 61 .. | 85,608 | 18.72 | 96 .. | 1,789 | 2.45 |
| 27 .. | 96,861 | 49.38 | 62 .. | 84,591 | 17.94 | 97 .. | 1,243 | 2.32 |
| 28 .. | 96,794 | 48.42 | 63 .. | 83,479 | 17.17 | 98 .. | 843 | 2.19 |
| 29 .. | 96,723 | 47.45 | 64 .. | 82,265 | 16.42 | 99 .. | 557 | 2.08 |
| 30 .. | 96,649 | 46.49 | 65 .. | 80,944 | 15.68 | 100 .. | 359 | .. |
| 31 .. | 96,570 | 45.53 | 66 .. | 79,512 | 14.95 | 101 .. | 225 | .. |
| 32 .. | 96,485 | 44.57 | 67 .. | 77,962 | 14.24 | 102 .. | 137 | .. |
| 33 .. | 96,392 | 43.61 | 68 .. | 76,285 | 13.54 | 103 .. | 81 | .. |
| 34 .. | 96,292 | 42.65 | 69 .. | 74,470 | 12.86 | 104 .. | 46 | .. |

The tables are extracts from those produced by the Commonwealth Actuary, the source data being supplied by the Commonwealth Statistician and comprising: (i) the number of males and females living at each age last birthday, as shown by the 1961 Census; (ii) the number of male and female deaths at each age (last birthday) in the years 1960, 1961 and 1962.

There are no life tables prepared on the basis of Tasmanian experience and in most legal and actuarial situations, it is normal to use the Australian Life Tables.

True Death Rates

The true death rate is the reciprocal of the complete expectation of life of a person at birth. In calculating $e^{\circ}x$ where x is 0, the sum of the L_x values was taken as the total number of years lived by the original 100,000 over a period of a century or more. To arrive at the true death rate, the life-table can also be regarded as the experience of a single year so that the sum of the L_x values

no longer represents years lived but simply persons 'at risk' in association with 100,000 deaths. By way of illustration, in the male life table the sum of all survivors (L_x values) is 6,791,916 males associated with 100,000 deaths:

$$\text{True Death Rate} = \frac{100,000}{6,791,916} = 14.72 \text{ per 1,000}$$

The true death rate for a given period is unaffected by the particular age distribution of that period, and is determined solely by the mortality experience of the period as manifested in the rate of survival from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by Australian life tables:

Australia—Complete Expectation of Life at Birth and True Death Rates

| Period | Complete Expectation of Life At Birth (Years) | | True Death Rate (a) | |
|-----------------|--|---------|---------------------|---------|
| | Males | Females | Males | Females |
| 1881-1890 | 47.20 | 50.84 | 21.19 | 19.67 |
| 1891-1900 | 51.06 | 54.76 | 19.58 | 18.26 |
| 1901-1910 | 55.20 | 58.84 | 18.12 | 17.00 |
| 1920-1922 | 59.15 | 63.31 | 16.91 | 15.80 |
| 1932-1934 | 63.48 | 67.14 | 15.75 | 14.89 |
| 1946-1948 | 66.07 | 70.63 | 15.14 | 14.16 |
| 1953-1955 | 67.14 | 72.75 | 14.89 | 13.75 |
| 1960-1962 | 67.92 | 74.18 | 14.72 | 13.48 |

(a) Number of deaths per 1,000 in stationary (or life-table) population.

While the complete expectation of life at birth has shown a marked increase in successive tables, the increase at other ages has not been so pronounced. The following table compares the complete expectation of life at selected ages for the period 1891-1900 with that for 1960-1962:

Australia—Comparative Complete Expectation of Life

| Age x | Expectation of Life (e^x) at each age according to experience of period. | | | |
|-------------|--|---------|--------------|---------|
| | Male Lives | | Female Lives | |
| | 1891-1900 | 1960-62 | 1891-1900 | 1960-62 |
| 0 | 51.06 | 67.92 | 54.76 | 74.18 |
| 5 | 55.61 | 64.77 | 58.64 | 70.78 |
| 10 | 51.43 | 59.93 | 54.46 | 65.92 |
| 15 | 46.98 | 55.07 | 49.97 | 61.01 |
| 20 | 42.81 | 50.40 | 45.72 | 56.16 |
| 25 | 38.90 | 45.80 | 41.69 | 51.32 |
| 30 | 35.11 | 41.12 | 37.86 | 46.49 |
| 35 | 31.34 | 36.45 | 34.14 | 41.70 |
| 40 | 27.65 | 31.84 | 30.49 | 36.99 |
| 45 | 23.99 | 27.38 | 26.69 | 32.38 |
| 50 | 20.45 | 23.13 | 22.93 | 27.92 |
| 55 | 17.08 | 19.18 | 19.29 | 23.63 |
| 60 | 13.99 | 15.60 | 15.86 | 19.51 |
| 65 | 11.25 | 12.47 | 12.75 | 15.68 |
| 70 | 8.90 | 9.77 | 9.89 | 12.19 |
| 75 | 6.70 | 7.47 | 7.37 | 9.16 |
| 80 | 5.00 | 5.57 | 5.49 | 6.68 |

It will be noted that e^x for age 5 years in the period 1891-1900 was actually higher than for age 0 years. This peculiarity was associated with the extremely high rate of infant mortality then prevailing.

Number of Life Table Survivors

The following table shows the number of survivors (i.e. l_x values) at various ages as presented in Australian Life Tables since 1901:

Number of Survivors (l_x) at Selected Ages out of 100,000 Births

| Age (x) | Period | | | |
|----------|-----------|-----------|-----------|-----------|
| | 1901-1910 | 1946-1948 | 1953-1955 | 1960-1962 |
| MALES | | | | |
| 0 | 100,000 | 100,000 | 100,000 | 100,000 |
| 10 | 86,622 | 95,619 | 96,488 | 97,062 |
| 20 | 84,493 | 94,562 | 95,460 | 96,215 |
| 30 | 80,844 | 92,967 | 93,801 | 94,726 |
| 40 | 75,887 | 90,823 | 91,861 | 92,859 |
| 50 | 68,221 | 85,946 | 87,553 | 88,473 |
| 60 | 56,782 | 74,251 | 76,256 | 77,456 |
| 70 | 38,275 | 52,230 | 54,054 | 54,944 |
| 80 | 14,330 | 22,785 | 23,658 | 24,669 |
| FEMALES | | | | |
| 0 | 100,000 | 100,000 | 100,000 | 100,000 |
| 10 | 88,395 | 96,549 | 97,228 | 97,664 |
| 20 | 86,459 | 95,953 | 96,774 | 97,278 |
| 30 | 82,909 | 94,740 | 96,055 | 96,649 |
| 40 | 78,001 | 92,758 | 94,715 | 95,481 |
| 50 | 71,945 | 89,011 | 91,573 | 92,713 |
| 60 | 63,247 | 81,257 | 84,665 | 86,537 |
| 70 | 46,793 | 65,398 | 69,613 | 72,505 |
| 80 | 21,356 | 35,401 | 39,633 | 43,453 |

The most significant feature is the increased number of survivors at age 10 years and this can be related directly to the dramatic fall in infant mortality rates since the turn of the century. Attention is called also to the wide disparity between male and female survivors at ages 60, 70 and 80 years.

Chapter 6

PRIMARY INDUSTRY—RURAL

LAND TENURE AND SETTLEMENT

Introduction

The area of Tasmania is 16,885,000 acres, all of which had been proclaimed as Crown property when the first settlers arrived in 1803. In the hundred and sixty years or so since their landing, 39.4 per cent of the State's total area has been alienated by grant or sale and is owned by individual persons, partnerships, companies, statutory authorities and corporations; the Crown still owns 59.1 per cent whilst the residual 1.5 per cent is in the process of alienation (i.e. being purchased from the Crown by instalment payments).

Historical

The first concern of the settlers on the Derwent and the Tamar in 1804 was the growing of grain for which small holdings were adequate; thus by 1820, land obtained as grants from the Crown was confined to areas within easy reach of Hobart and Launceston and of the 16,885,000 acres of Crown land, less than 70,000 acres had been alienated.

In the 1820s, the successful export of wool to Britain created a demand for land in very much larger holdings and annual alienation of Crown land by free grant increased rapidly as shown in the following table:

**Area of Land Alienated by Grants in Van Diemen's Land, 1820 to 1843
('000 Acres)**

| Year | Area Granted | Year | Area Granted | Year | Area Granted | Year | Area Granted |
|---------|--------------|---------|--------------|---------|--------------|---------|--------------|
| 1820 .. | 69 | 1826 .. | 60 | 1832 .. | 33 | 1838 .. | 45 |
| 1821 .. | (a) | 1827 .. | 77 | 1833 .. | 24 | 1839 .. | 15 |
| 1822 .. | | 1828 .. | 165 | 1834 .. | 9 | 1840 .. | 10 |
| 1823 .. | 434 | 1829 .. | 208 | 1835 .. | 9 | 1841 .. | 7 |
| 1824 .. | 43 | 1830 .. | 108 | 1836 .. | 8 | 1842 .. | .. |
| 1825 .. | (b) 462 | 1831 .. | 206 | 1837 .. | 22 | 1843 .. | 1 |

(a) Not available.

(b) Includes 350,000 acres granted to Van Diemen's Land Company.

From the previous table, it can be calculated that the alienation of Crown land by grant exceeded, in total, one million acres by 1825 and two million acres by 1843 (when this early system of free grants had virtually ceased). Apart from the 350,000 acres granted to the Van Diemen's Land Company in the north-west, the other alienated land included virtually the whole Midlands, the upper Derwent Valley and much of the east coast. At the same point in time—1843—less than 500,000 acres of Crown land had been sold, even though the price per acre ranged from \$0.50 to \$1.20.

Primary Industry—Rural

A table in *Statistics of Van Diemen's Land* gives details of alienation, in aggregate, and of leasing of Crown land at 1 January 1850 as follows:

| | |
|---|-----------------|
| Total Area Granted and Sold to Settlers .. | 2,722,513 Acres |
| Area of Land Held under Depasturing Licences .. | 1,335,779 Acres |

The Crown land under licence was a source of revenue to the Government which made available 1.3 million acres for a rental of \$33,428 in 1849. From this point of time, the process of alienation can be summarised as follows:

Land Alienation from 1860
('000 Acres)

| Year (a) | Land | | Year (a) | Land | |
|-------------|------------------------|-----------------------------|-------------|------------------------|-----------------------------|
| | Aggregate Alienated | In Process of Alienation | | Aggregate Alienated | In Process of Alienation |
| 1860 .. | 3,069 | | 1960 .. | 6,386 | 190 |
| 1880 .. | 4,233 | | 1961 .. | 6,403 | 212 |
| 1900 .. | 4,835 | | 1962 .. | 6,417 | 197 |
| 1910 .. | 4,932 | 1,104 | 1963 .. | 6,430 | 199 |
| 1920 .. | 5,242 | 964 | 1964 .. | 6,598 | 220 |
| 1930 .. | 5,721 | 542 | 1965 .. | 6,619 | 204 |
| 1940 .. | 5,912 | 423 | 1966 .. | 6,616 | 208 |
| 1950 .. | 6,143 | 365 | 1967 .. | 6,652 | 246 |

(a) At 31 December until 1948; at 30 June for 1950 and following years.

Sales of Crown Land

The sale of Crown land is currently carried out under the *Crown Lands Act* 1935 as amended. Sales fall into two broad categories: (i) by selection; (ii) by auction. In the case of selection, three classifications of rural land are established and purchase is made over a number of years by instalments, the term depending on the class of land. Land on which such instalments are being paid is defined as 'Crown land in process of alienation'. The following table shows details of recent sales:

Sales of Crown Land, 1966-67

| Particulars | Number of Lots | Area | Value | |
|--------------------------------|----------------------|----------------|-----------|---------------------|
| | | | Total | Average per Acre |
| Selections (Country Land) (a)— | | | | |
| First-class land | 21 | acres 1,313 | \$ 11,721 | \$ 8.93 |
| Second-class land | 70 | 22,273 | 136,746 | 6.14 |
| Third-class land | 11 | 21,554 | 437,688 | 20.31 |
| Sold by Auction (Country Land) | 24 | 1,493 | 29,577 | 19.81 |
| Total | 126 | 46,633 | 615,732 | 13.20 |
| Town and Suburban Lots | 59 | 128 | 50,001 | 390.63 |
| Grand Total .. | 185 | 46,761 | 665,733 | .. |

(a) Financial details refer to the contract price, the actual payment being made in instalments over a period of years.

The next table summarises sales of Crown land over a five-year period:

Sales of Crown Land—Summary

| Year | Area of Land Sold (Acres) | | | Average Price Per Acre (\$) | |
|---------------|------------------------------|------------------------------|--------|--------------------------------|------------------------------|
| | Country Lots | Town and Suburban Lots | Total | Country Lots | Town and Suburban Lots |
| 1962-63 | 14,478 | 318 | 14,796 | 4.93 | 120.65 |
| 1963-64 | 33,518 | 747 | 34,265 | 3.73 | 53.33 |
| 1964-65 | 22,454 | 255 | 22,709 | 7.94 | 154.47 |
| 1965-66 | 24,035 | 1,591 | 25,626 | 5.30 | 56.76 |
| 1966-67 | 46,633 | 128 | 46,761 | 13.20 | 390.63 |

Present Use of Crown Lands

The total area of Tasmania is 16,885,000 acres, of which, at 30 June 1967, 39.4 per cent had been alienated; 1.5 per cent was in the process of alienation; the balance, 59.1 per cent, was Crown land, a proportion of which was under lease or licence for pastoral, agricultural and mining purposes. Crown land reserved for forestry purposes, including the State Forests, accounted for 21.9 per cent of the State's area. ('Reservation' in the context of forestry does not imply land withheld from all types of use but simply land either used or to be used exclusively for forestry purposes.)

Alienation and Occupation of Crown Lands, 30 June 1967

| Classification of Land | Area | |
|---|-----------|------------|
| | Acres | Acres |
| Alienated (Aggregate) | | 6,651,694 |
| In Process of Alienation | | 246,226 |
| Crown Lands— | | |
| Leased or Licensed— | | |
| Through Lands Department— | | |
| Pastoral | 857,185 | |
| Closer Settlement | 15,747 | |
| Soldier Settlement | 40,882 | |
| Short-term | 1,128 | |
| Through Mines Department | 54,041 | |
| Total Leased or Licensed | | 968,983 |
| Forestry Reservations— | | |
| State Forests | 2,520,427 | |
| Other Land Reserved for Forestry Purposes | 1,170,149 | |
| Total Forestry Reservations | | 3,690,576 |
| Other Crown Land | | 5,327,521 |
| Area of State | | 16,885,000 |

In the previous table appears the item 'forestry reservations'. Over 1.8 million acres of this area are lands where cutting rights have been granted, either by exclusive forestry permit or by the award of pulpwood concessions.

A large proportion of the logs for sawmills, paper mills, etc. are obtained from these forestry reservations. Further details of Crown land reserved for forestry appear in the Forestry section of Chapter 7, 'Primary Industry—Non Rural'.

The next table summarises the alienation and occupation of Crown lands over a five-year period:

**Alienation and Occupation of Crown Lands
At 30 June**

| Classification of Land | 1963 | 1964 | 1965 | 1966 | 1967 |
|-------------------------------------|-------|-------|-------|-------|-------|
| AREA ('000 ACRES) | | | | | |
| Alienated (Aggregate) .. | 6,430 | 6,598 | 6,619 | 6,616 | 6,652 |
| In Process of Alienation .. | 199 | 220 | 204 | 208 | 246 |
| Crown Lands— | | | | | |
| Leased or Licensed (a) .. | 1,076 | 1,104 | 1,025 | 977 | 969 |
| Forestry Reservations (b) .. | 3,407 | 3,511 | 3,532 | 3,608 | 3,691 |
| Other | 5,773 | 5,452 | 5,505 | 5,476 | 5,327 |
| PROPORTION OF TOTAL AREA (PER CENT) | | | | | |
| Alienated (Aggregate) .. | 38.1 | 39.1 | 39.2 | 39.2 | 39.4 |
| In Process of Alienation .. | 1.2 | 1.3 | 1.2 | 1.2 | 1.5 |
| Crown Lands— | | | | | |
| Leased or Licensed (a) .. | 6.4 | 6.5 | 6.1 | 5.8 | 5.7 |
| Forestry Reservations (b) .. | 20.2 | 20.8 | 20.9 | 21.4 | 21.9 |
| Other | 34.1 | 32.3 | 32.6 | 32.4 | 31.5 |

(a) Through Lands Department and Mines Department.

(b) Including State Forests.

As shown in the previous table, Crown land at 30 June 1967 occupies 59.1 per cent of the State's total area. The bulk of this land is located in the western half of the island where altitude, rainfall and soil, either individually or in combination, prevent successful farming development. The only other large concentration of Crown land is in the north-east.

Although the possibility of rapidly alienating more Crown land for farming purposes on any large scale may seem remote, it should be noted that much of this area is nevertheless of importance to the State's economy, specifically for forestry and tourism. Crown land reserved for forestry use occupies approximately 21.9 per cent of the area of the State while reservations classed as National Parks and Scenic Reserves account for 3.6 per cent. Details of the latter type of reservation appear in the next section.

National Parks and Scenic Reserves

The Scenery Preservation Board is responsible for the administration of the State's National Parks and Scenic Reserves which occupy a part of the residual Crown land. Details of National Parks are as follows:

National Parks at 30 June 1968 (a)

| Name | Locality | Area (Acres) |
|-------------------------------|-------------------|--------------|
| Cradle Mountain-Lake St Clair | Central Highlands | 338,496 |
| Lake Pedder | South-West | 59,000 |
| Mt Field | Derwent Valley | 40,058 |
| Ben Lomond | North-East | 39,615 |
| Frenchmans Cap | West Coast | 25,240 |
| Hartz Mountains | South | 21,300 |
| Mt Barrow | North | 1,134 |
| Freycinet Peninsula | East Coast | 18,420 |
| Rocky Cape | North-West | 4,000 |

(a) There were no variations of any magnitude in 1967-68 but the Hydro-Electric Commission was given permission to undertake construction work in the Lake Pedder National Park.

The area under reservation as National Parks is 547,264 acres, and as Scenic Reserves, a further 62,024 acres; in total, 609,288 acres. The following list gives details of the various types of reserve, together with location and area (expressed to the whole number below where fractions of an acre are recorded):

Scenic Reserves at 30 June 1968

| Type of Reserve and Name | Locality | Area (Acres) |
|----------------------------------|---------------------|-----------------|
| Coastal Reserves— | | |
| Stewarts Bay | Tasman Peninsula | 4 |
| Stewarts Bay, Esplanade, Pt Puer | Tasman Peninsula | 58 |
| Pt Puer-Crescent Bay | Tasman Peninsula | 92 |
| Brown Mt.-Remarkable Cave | Tasman Peninsula | 150 |
| Eaglehawk Neck and Foresore | Tasman Peninsula | 90 |
| Eaglehawk Neck-Taranna | Tasman Peninsula | 61 |
| Tasman Arch-Blowhole | Tasman Peninsula | 140 |
| Waterfall Bay | Tasman Peninsula | 30 |
| Fossil Island | Tasman Peninsula | 3 |
| Tessellated Pavement | Forestier Peninsula | 9 |
| Lookout Rock | Bicheno | 5 |
| Cookville-Penguin Island | Bruny Island | 3 |
| Fluted Cape-Cloudy Bay | Bruny Island | 600 |
| Port Davey Foresore | South-West | 1,350 |
| Port Davey Islands | South-West | 202 |
| Schouten Island | East Coast | 8,500 |
| Waterfalls— | | |
| St Columba | Pyengana | 775 |
| Forth | Sheffield | 135 |
| Marriott | National Park | 300 |
| Liffey | Western Tiers | 250 |
| Mt Barrow | North | 200 |
| River Reserves— | | |
| River Pieman | West Coast | 8,215 |
| River Gordon | West Coast | 6,200 |
| Roger River Pass | North-West | 430 |
| Derwent Cliffs | New Norfolk | 11 |
| Cave Reserves— | | |
| Hastings | South | 131 |
| Marakoopa | Mole Creek | 146 |
| King Solomon | Mole Creek | 500 |
| Baldock (3 areas) | Mole Creek | { 37 63 5 |
| Gunns Plains | Ulverstone | 24 |

Scenic Reserves at 30 June 1968—continued

| Type of Reserve and Name | Locality | Area (Acres) |
|--|-------------------|--------------|
| Scenic Roads— | | |
| Lyell Highway | Western Highlands | 18,000 |
| Zeehan-Renison Bell | West Coast | 272 |
| St Marys Pass | St Marys | 674 |
| Murchison Highway | West Coast | 1,640 |
| Fern Gullies, Forests, etc.— | | |
| Thermal Springs | Kimberley | 1 |
| Thermal Springs | Hastings | 19 |
| Chalet | Hastings | 1 |
| Waterfall Creek | Bruny Island | 60 |
| Ferndene Gorge | Penguin | 6 |
| Notley Gorge | West Tamar | 28 |
| Hellyer Gorge | Waratah area | 1,406 |
| Corra Linn | Launceston | 1 |
| Corinna | West Coast | 8 |
| Bird Sanctuary | Steppes | 16 |
| Fairy Glade | Western Tiers | 97 |
| Brady's Lookout | Rosevears | 2 |
| Parramores Lookout | Port Arthur | 1 |
| Mt Strzelecki | Flinders Is. | 9,750 |
| St Patricks Head | St Marys | 370 |
| Historic Sites, Buildings and Monuments— | | |
| Town of Port Arthur | Tasman Peninsula | 217 |
| Mt Arthur | Tasman Peninsula | 10 |
| Convict Coal Mines | Saltwater River | 528 |
| Bowen's Monument | Risdon | 0 |
| Bowen Park | Risdon | 6 |
| George III Monument | Southport | 25 |
| Tasman Monument | Dunalley | 0 |
| D'Entrecasteaux Monument | Gordon | 1 |
| York Town | West Tamar | 6 |
| Recherche Bay | Ramsgate | 3 |
| Settlement Island | Macquarie Harbour | 15 |
| Isle of Condemned | Macquarie Harbour | 0 |
| Old Gaol and Paddock | Richmond | 1 |
| Entally House | Hadspen | 85 |
| Steppes Homestead | Steppes | 25 |
| Shot Tower | Tarooma | 8 |
| Waubadebar's Grave | Bicheno | 0 |
| Toll House | New Norfolk | 0 |
| Bluff Battery | Bellerive | 4 |
| Oatlands Mill | Oatlands | 0 |
| 161 Davey Street | Hobart | 0 |
| Batchelor's Grave | Tarooma | 0 |

War Service Land Settlement

After both World War I and World War II, Government schemes were operated with the aim of assisting ex-servicemen to settle on the land. The following section deals only with the scheme initiated to settle on the land eligible ex-servicemen from the 1939-45 War, and the Korean and Malaysian operations.

The Commonwealth has provided finance but the administration has been undertaken by the War Service Land Settlement Division of the Agricultural Bank, a State authority. Work is almost completed and all holdings have been made over to settlers; it is expected that operations will cease prior to 30 June 1969.

The following table summarises progress in physical terms (farms allotted, etc.) and in financial terms (loans to settlers, payments for acquisition, etc.):

**War Service Land Settlement
(1939-45 War and Korea-Malaya Operations)
Summary to 30 June 1967**

| Operations | | Commonwealth Expenditure (Aggregate) | |
|--------------------------|-----------------------|---|--------------------------------|
| Particulars | Total to 30 June 1967 | Advances in Respect of Tasmania | Total to 30 June 1967 (\$'000) |
| Land Acquired (Acres) .. | 495,106 | For Acquisition of Land | 5,061 |
| Farms Allotted— | | For Development and Improvement of Land | 34,815 |
| Number | 503 | Contribution to Excess Cost over Valuation | 9,115 |
| Area (Acres) | 449,629 | Settlers' Credit Facilities | 12,806 |
| Farms Being Developed— | | Remission of Settlers' Rent and Interest | 508 |
| Number | .. | Living Allowances For Settlers | 401 |
| Area (Acres) | .. | Irrigation Projects | 6 |
| | | Loss on Advances | 128 |
| | | Cost of Administration of Credit Facilities | 640 |
| | | Total | 63,480 |

Of the farms allotted to 30 June 1967, the largest concentrations were at King Island, Flinders Island, the Lawrenny estate and the Montagu project. All properties available have been allotted; 15 applicants are recorded as still interested though not pressing for settlement in any particular area.

Advances to Settlers

Although the principal efforts in land settlement since World War II have been made under the War Service Land Settlement Scheme, the State Government has also operated its own schemes to assist settlers by providing loans. The following table shows particulars of advances under various Acts:

| Advances | Total Advances Made During 1966-67 | Total Advances to 30 June 1967 | Balance Outstanding at 30 June 1967 | |
|--|------------------------------------|--------------------------------|-------------------------------------|--------|
| | | | Number | Amount |
| Agricultural Bank— | \$'000 | \$'000 | | \$'000 |
| State Advances Act (including Rural Credits) | 603 | 12,254 | 1,245 | 3,782 |
| Commonwealth Re-establishment and Employment Act 1945 .. | .. | 815 | 78 | 63 |
| Primary Producers' Relief Act 1947 | .. | 595 | 12 | 5 |
| Primary Producers' Relief Act 1960 | .. | 18 | 2 | 3 |
| Primary Producers' Relief Act 1962 | .. | 19 | 6 | 8 |
| Closer Settlement (Soldiers) Act .. | 14 | 2,135 | 136 | 109 |
| Closer Settlement Act .. | 41 | 443 | 68 | 424 |
| Fire Damage Relief Act 1967 .. | 28 | 28 | 27 | 28 |
| Total | 686 | 16,307 | 1,574 | 4,422 |

Details of the main forms of assistance now available to settlers are as follows:

The State Advances Act 1935

Under Part III of the Act, loans may be made to persons in rural industries for the purchase of farm properties, discharge of mortgage or for making improvements. Loans may be made for periods up to 30 years at an interest rate determined by the Treasurer. The rate during 1966-67 was five and three-quarter per cent. The present limit on any single advance is \$20,000.

Under Part IV of the Act (Short Term Rural Credits), loans may be made to persons engaged in prescribed rural industries for the purchase of stock, plant, seeds and manures and for other purposes considered necessary for carrying on their industry. There is no statutory limit to the amount which may be advanced to each applicant. Usual period of loans are: plant, 10 years; stock, five years; land development, 10-15 years; structural improvements, 20 years; working expenses, one to three years.

RURAL INDUSTRY

General

Tasmania is associated in most peoples' minds with apples and hops, since it is Australia's leading producer of these crops, but its rural industry is based on a very much wider range of products. In fact, the Tasmanian rural economy is marked by great diversity and, even allowing for the special regional adaptations made necessary by soil, climate, terrain and altitude, there are many rural holdings which individually exhibit an extremely varied range of activities.

In the early colonial days, Tasmania was actually famed as Australia's granary (because of its wheat), yet there is hardly any extensive area suitable for the large-scale mechanised farming as now practised in the continental wheat belt. At a later stage, the island acquired a reputation for potato growing, production in some years outstripping that of any other Australian State. The present pattern of farming puts far more emphasis on the rearing of livestock and on the increased production of wool, meat and dairy products; field crops now include vegetables for canning and freezing but the relatively large areas devoted to oats, green fodder and vegetables for stock fodder are indicative of an orientation towards livestock raising. The traditional 'specialties', orchards and hop growing, are still important in the total picture but the major development in the years since World War II has been the rapid creation of large areas of sown and semi-improved pasture.

The next section deals with the early history of Tasmanian farming and emphasises the importance of wheat growing in the early colonial era.

Historical

In 1856 appeared the *Statistical Account of Van Diemen's Land or Tasmania* compiled by H. M. Hull from official records; the following extracts from this publication describe events in the colony when provision of food was undoubtedly the most urgent problem:

1804 February 19. Governor Collins landed in Sullivan's Cove from Port Phillip . . . 10s. an acre was charged for reaping wheat by the Convicts . . . Scurvy existed in the Settlement.

1805 Kangaroos were boiled down into Soup, and issued a quart at a time at the Colonial Hospital.

- 1806 Great scarcity of provisions. Grain prohibited from being used for brewing.
- 1807 Wheat crop failed.
- 1808 In July all the wheat and maize was gone, so 12 lb of barley was issued. In August, the beef and pork were expended, so kangaroo meat was issued instead. In October the barley was all gone, so 1½ lb a week of rice was issued instead.
- 1809 In October all the grain was expended; 7 lb of kangaroo meat was issued instead. Seed wheat and barley issued in March and May to the Settlers on loan.
- 1811 Acres in wheat 1500.
- 1812 The *Cyclops* sailed for Sydney with a cargo of wheat grown in the Colony.

In the same publication appear farm statistics for the Tamar settlement in 1816 and the Derwent settlement in 1817. Records for the next year (1818) contain statistics for the whole colony as follows:

'Land in cultivation—Wheat, 5049 acres; barley, 214 ditto; peas and beans, 148½ ditto; potatoes, 268 ditto; total, 5679½ acres. Livestock in the colony—horses, 267; horned cattle, 12,356; sheep, 127,883.'

The pattern of early agricultural development can be inferred from the following summary of official farm statistics:

Area Under Crops—Van Diemen's Land, 1818-1841
(Acres)

| Year | Wheat | Barley | Oats | Peas | Beans | Pota-toes | Turnips | English Grasses | Tares | Total Crops |
|---------|--------|--------|--------|------|-------|-----------|---------|-----------------|-------|-------------|
| 1818 .. | 5,049 | 214 | (a) | 149 | 268 | (a) | (a) | (a) | (b) | |
| 1828 .. | 20,357 | 3,864 | 1,573 | 646 | 35 | 1,292 | 1,296 | 4,970 | .. | 34,033 |
| 1838 .. | 41,760 | 13,495 | 21,576 | 868 | 128 | 3,532 | 9,054 | 17,150 | 437 | 108,000 |
| 1841 .. | 63,734 | 9,010 | 16,471 | 738 | 102 | 4,185 | 15,943 | 22,082 | 349 | 132,614 |

(a) Not reported.

(b) Not comparable.

Livestock statistics for the same period are summarised as follows:

Livestock—Van Diemen's Land, 1818-1841

| Year | Horses | Horned Cattle | Sheep | Goats |
|---------|--------|---------------|-----------|-------|
| 1818 .. | 267 | 12,356 | 127,883 | |
| 1828 .. | 2,034 | 84,476 | 553,698 | 708 |
| 1838 .. | 9,656 | 75,087 | 1,214,485 | 2,400 |
| 1841 .. | 12,000 | 90,498 | 1,167,737 | 2,630 |

Early Development—First Phase

Although the early colonists had come halfway round the globe, Tasmania's temperate climate allowed them to pursue a type of farming which was little different from that carried on in contemporary England—certainly the crops grown were the same; however, the grazing of livestock on extensive bush-runs, the use of convict labour, the clearing of scrub and the occasional menace of the aborigine and bushranger were sufficient reminders that home lay 12,000 miles away.

Early farm development round the Derwent settlement occurred in what are now Hobart suburbs (New Town and Glenorchy) and further up-river at New Norfolk. The attraction of open plains and open forest country then drew

settlers into the Coal River Valley (Richmond and Sorell), into the Midlands and parts of the East Coast. The Tamar settlers in the north first worked land on the plains around the site of Launceston, with early expansion to the Longford area and with grazing in the St Leonards and White Hills districts; the Northern Midlands were also developed as farming country in this era.

As suggested by the previous table of areas, the principal crop was wheat. It is hard today to picture Tasmania as Australia's principal wheatgrower but, in 1842, the island colony with nearly 80,000 acres sown to this crop, outstripped N.S.W., W.A., Victoria and S.A. individually and contained nearly half the Australian wheat acreage. Throughout the 19th century, wheat was a principal cash crop, but eventually competition from the continental States (both in type and price) caused a decline, as shown in the following table:

Wheat for Grain—Area Under Crop and Total Production, Selected Years

| Year | Area Under Crop | Production | Year | Area Under Crop | Production |
|-------------|-----------------|--------------|-------------|-----------------|--------------|
| | acres | '000 bushels | | acres | '000 bushels |
| 1860-61 | 66,450 | 1,416 | 1930-31 | 19,107 | 391 |
| 1870-71 | 57,382 | 897 | 1940-41 | 8,038 | 140 |
| 1880-81 | 50,022 | 750 | 1945-46 (b) | 4,982 | 67 |
| 1890-91 | 32,452 | 643 | 1950-51 | 5,318 | 95 |
| 1898-99 (a) | 85,287 | 2,304 | 1960-61 | 6,912 | 148 |
| 1900-01 | 51,825 | 1,110 | 1964-65 | 16,805 | 364 |
| 1910-11 | 52,242 | 1,121 | 1965-66 | 14,107 | 368 |
| 1920-21 | 28,284 | 566 | 1966-67 | 12,747 | 385 |

(a) Peak production year.

(b) Record low production year.

The present position is that Tasmanian bread is made entirely from imported wheat and the home-grown product is used to make high quality biscuit flours for which it is well suited, and for stock fodder.

Early Development—Second Phase

Before the 1850s, most farm land had been confined to the eastern half of the State where open plains and open forest country encouraged penetration. The pastoral venture of the Van Diemen's Land Company in the north-west is the principal exception to this generalisation. Further development, supported by the buoyant market during the Victorian gold rush, required the clearing of more thickly timbered land, the principal attraction being the fertile chocolate-coloured volcanic soils of the North-West Coast; in the same decade, the discovery of the basalt lands in the Scottsdale-Ringarooma area was followed by settlement in the North-East. It was in this second phase that the practice of ring-barking trees helped settlers make progress in thickly-forested country.

Late in the 19th century, pioneers began to develop orchards, mainly for apples, in the thickly timbered country of the Huon, Tamar and lower Mersey Valleys. In the decade after Federation, annual apple production commenced to exceed one million bushels (as compared with the 1963-64 record crop of 8½ million bushels).

Because of the heavy clearing work necessary in the second phase of development (which lasted up till the First World War), it can appropriately be called the bush pioneering period.

Recent Development

Following World War I, the State fostered farming development through schemes for the settlement of returned soldiers, but this largely involved the acquisition and sub-division of existing properties, the only major conversion of virgin land being at Brittons Swamp on the North-West Coast. After World War II, soldier settlement and closer settlement schemes of a more ambitious nature were undertaken, the main areas of development being King and Flinders Islands, the Waterhouse and Tomahawk projects in the North-East and the reclamation of Montagu Swamp on the far North-West Coast. (Another project involved the sub-division of the Lawrenny estate in the Hamilton area of the Midlands.) Major private schemes are now in progress for pastoral development in the far North-East, where modern machinery makes light work of clearing the low scrub and where low-density grazing had once been the only form of utilisation.

*Sources of Information***Rural Industry Statistics**

The statistics are, in the main, compiled from census returns of agricultural, pastoral and dairying production collected from rural holdings in Tasmania at 31 March each year. In conjunction with the general census, supplementary collections from farms are conducted where the harvesting of certain crops has not been completed by 31 March (e.g. apples, potatoes).

Additional information is also obtained from a number of entirely separate collections covering such data as slaughterings, meat production and dairy production and from various marketing and other authorities.

Period Covered

Data relating to area sown, production and number of holdings growing crops are, in general, for the season ended 31 March. In cases where harvesting has not been completed by 31 March (e.g. potatoes), total production is nevertheless collected and included in published figures. Livestock numbers also are reported at 31 March.

Rural Holdings

A 'rural holding' is defined as a piece of land of one acre or more in extent, used for the production of agricultural products or for the raising of livestock and the production of livestock products. Care should be exercised in drawing conclusions from changes in the number of rural holdings over a series of years. There are many small sub-commercial holdings, a proportion being no more than large residential blocks with perhaps a small plot of potatoes or other crops, or carrying a house-cow or poultry. It is very difficult, in some cases, to determine whether or not they should be regarded as rural holdings within the definition, and some variation in treatment over time has occurred.

Area of Crops

Total area of land sown or planted to crops is shown irrespective of whether the whole area was subsequently harvested or whether a portion or the whole of the crops failed and was not harvested. Where two successive crops are grown on the same land during the one season, the land is included twice in the area of crops.

Value of Production

The statistics in the following sections refer, in the main, to areas sown to crops and quantities produced. The value of the various crops is shown under 'Value of Production' in Chapter 7.

Classification of Rural Holdings By Type of Activity

Because many Tasmanian holdings are devoted, in the main, to more than one specific type of farming activity, it is difficult to present, in summary form, the essential characteristics or structure of rural industry in the State today. Before considering in detail crop areas, production statistics and livestock numbers, it is logical to examine the 'main line' of each farm and to determine what are the principal activities; from this study can be evolved a classification of holdings by type of activity. In 1959-60, the first attempt was made at classifying rural holdings in all States on a uniform basis. A similar classification was made for 1965-66, and Tasmanian details are shown in the next table. A detailed publication entitled *Classification of Rural Holdings by Size and Type of Activity 1965-66* has been issued, for each State and Australia as a whole, by the Bureau of Census and Statistics. Classification by type of activity is carried out at irregular intervals and not annually.

Because of the large number of holdings on which more than one type of activity occurs, it was necessary to determine the principal activity before such holdings could be classified to particular types. Since it was desirable to exclude from the principal classification small sub-commercial holdings (generally operated only on a part-time basis), it was also necessary to have some means of determining at what scale of operations holdings engaged in various activities could be considered as commercial propositions. The measuring of the importance of each type of activity was based on *gross receipts at the farm* (estimated from quantity details shown on the annual statistical returns together with price data from independent sources).

Holdings for which estimated farm gross receipts were less than \$1,600 (\$1,200 in 1959-60) were treated as 'sub-commercial' and these, together with unused holdings, holdings used for intermittent grazing, and holdings attached to prisons, hospitals, etc. were not classified by type of farming activity. When these holdings had been eliminated, farms were classified according to the formulae that follow.

If a single activity accounted for 50 per cent or more of the total gross receipts, that activity determined the holding type. Where no single activity accounted for 50 per cent of the total gross receipts, the holdings were classified as 'multi-purpose'. Principal exceptions to this general rule were holdings reporting (i) sheep and cereal grains, and (ii) cattle (milk production) and pigs. In the former case, the holding was treated as a composite sheep-cereal grain type if the combined receipts obtained from the two activities added to 75 per cent or more of total gross receipts, so long as gross receipts from sheep were no more than four times and not less than one quarter of the gross receipts obtained from cereal grains. In the latter case, if the combined receipts obtained from cattle (milk production) and pigs represented 50 per cent or more of total gross receipts, the holding was classified as dairying.

The next table provides details of the number of holdings classified to each type of activity in each statistical division. Because of changes to the wording of the Farm Census schedule, statistics in this table are not strictly comparable with the 1959-60 classification.

A number of interesting conclusions emerge from a consideration of 'classified holdings' in the following table: (i) the main activity of over 62 per cent of classified holdings is concerned with either cattle or sheep; (ii) cereal grain growing barely exists as a main activity and is principally carried out in conjunction with the grazing of sheep or cattle; (iii) three main types of holding, namely dairying, sheep and fruitgrowing in that order, account for over 74 per cent of classified holdings; (iv) nearly 12 per cent of classified

holdings must carry on at least three distinct activities, otherwise they could not be classified as 'multi-purpose' in accordance with the 50 per cent formula prefacing the table; (v) dairying is clearly the major activity of the NW. Statistical Division and fruitgrowing of the Southern Statistical Division.

Holdings Classified According to Type of Activity, 1965-66 (a)

| Type of Holding | Statistical Division | | | | | | | | Total (b) |
|---------------------------|----------------------|--------------|----------------|------------|--------------|--------------|-----------|------------|---------------|
| | NW. | NE. | North Mid-land | Mid-land | SE. | Southern | West-ern | Balance | |
| Sheep-Cereal | | | | | | | | | |
| Grain .. | 7 | 1 | 15 | 10 | 58 | 1 | .. | 1 | 93 |
| Sheep .. | 185 | 272 | 315 | 360 | 353 | 61 | .. | 1 | 1,547 |
| Cereal Grain .. | .. | .. | .. | .. | 2 | .. | .. | .. | 2 |
| Cattle (Meat) .. | 146 | 60 | 17 | 4 | 10 | 31 | 5 | 3 | 276 |
| Cattle (Milk) .. | 2,109 | 546 | 164 | 26 | 48 | 128 | .. | 5 | 3,026 |
| Fruitgrowing .. | 48 | 152 | 1 | 14 | 49 | 944 | .. | 26 | 1,234 |
| Vegetables— | | | | | | | | | |
| Potatoes .. | 168 | 13 | .. | 37 | 12 | 4 | 1 | 1 | 236 |
| Other & Mixed | 173 | 32 | 6 | 3 | 21 | 9 | .. | 20 | 264 |
| Poultry .. | 17 | 18 | 9 | 3 | 12 | 27 | .. | 7 | 93 |
| Pigs .. | 9 | 5 | 4 | 1 | 7 | 11 | 1 | 3 | 41 |
| Other (One Main Purpose) | 9 | 6 | .. | 34 | 2 | 68 | .. | 9 | 128 |
| Multi-Purpose | 474 | 118 | 161 | 45 | 66 | 54 | 1 | 5 | 924 |
| Total 'Classified' .. | 3,345 | 1,223 | 692 | 537 | 640 | 1,338 | 8 | 81 | 7,864 |
| Sub-Commercial | 761 | 478 | 258 | 181 | 358 | 559 | 9 | 111 | 2,715 |
| Unused .. | 51 | 48 | 12 | 9 | 15 | 47 | 1 | 15 | 198 |
| Total All Holdings | 4,157 | 1,749 | 962 | 727 | 1,013 | 1,944 | 18 | 207 | 10,777 |

(a) Classification by type of activity is carried out at irregular intervals.

(b) Cities of Hobart, Launceston and Glenorchy (the statistical divisions are those in use before the Population Census of 30 June 1966).

Size of Rural Holdings

A classification of rural holdings by size is carried out at irregular intervals; the following table compares the size of holdings in selected years:

Classification of Rural Holdings by Size

| Size of Holdings (Acres) | Number of Holdings | | Area of Holdings ('000 Acres) | |
|-----------------------------|--------------------|---------------|----------------------------------|--------------|
| | 1928 | 1966 | 1928 | 1966 |
| 1 and under 50 .. | 3,164 | 2,365 | 58 | 50 |
| 50 and Under 100 .. | 2,108 | 1,625 | 147 | 117 |
| 100 and Under 500 .. | 4,779 | 4,770 | 1,095 | 1,069 |
| 500 and Under 1,000 .. | 726 | 946 | 594 | 654 |
| 1,000 and Under 5,000 .. | 775 | 845 | 1,600 | 1,771 |
| 5,000 and Under 10,000 .. | 146 | 130 | 1,018 | 892 |
| 10,000 and Under 20,000 .. | 67 | 67 | 925 | 910 |
| 20,000 and Under 50,000 .. | 29 | 24 | 812 | 711 |
| 50,000 and Over .. | 5 | 5 | 384 | 323 |
| Total .. | 11,799 | 10,777 | 6,633 | 6,496 |

Types of Farming Activity, 1966-67

At 31 March 1967, there were 10,641 rural holdings (compared with 11,538 in 1957). The following table shows the number of holdings growing selected principal crops or carrying livestock; this gives some indication of farming activities but on a cruder basis than the earlier table since the same holding may be included more than once in the figures (in an extreme case, the one holding could be included eleven times):

Number of Holdings Growing Principal Crops or Carrying Livestock

| Particulars | 1956-57 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------|---------|---------|---------|---------|
| Number of Rural Holdings .. | 11,538 | 10,979 | 10,777 | 10,641 |
| Holdings— | | | | |
| Growing— | | | | |
| Grain (a)— | | | | |
| Barley | 101 | 255 | 348 | 383 |
| Oats | 226 | 387 | 341 | 465 |
| Wheat | 45 | 255 | 213 | 194 |
| Hops | 97 | 109 | 107 | 106 |
| Vegetables (b)— | | | | |
| Potatoes | 3,103 | 1,605 | 1,963 | 1,582 |
| Onions | 14 | 17 | 13 | 22 |
| Fruit (b)— | | | | |
| Orchard | 1,715 | 1,317 | 1,305 | 1,260 |
| Small Fruit | 627 | 474 | 418 | 393 |
| Carrying— | | | | |
| Cattle | 9,519 | 8,384 | 8,667 | 8,598 |
| Sheep | 5,500 | 5,114 | 5,276 | 5,224 |
| Pigs | 3,687 | 3,315 | 3,153 | 2,749 |

(a) Twenty acres and over.

(b) One acre and over.

It should be noted that a fall in the number of holdings engaged in a particular activity does not necessarily involve decreased total activity. For example, holdings carrying cattle have decreased over the last ten years, whereas cattle numbers have shown a 47 per cent increase in the same period; on the other hand, the decline in holdings growing potatoes in the decade ended 1966-67 has been matched by an actual fall in acreage of potato crops and in production. The decrease in the number of small fruit growers has also been matched by a decline in acreage and production.

Land Utilisation on Rural Holdings

Rural holdings at present occupy 38.5 per cent of Tasmania's total area which is 16,885,000 acres; details of utilisation follow:

**Land Utilisation on Rural Holdings
(Acres)**

| Particulars | 1956-57 | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------------|------------------|------------------|------------------|------------------|
| Area Used for Crops (a) | 301,746 | 412,484 | 389,560 | 447,131 |
| Land Lying Fallow (b) | 69,236 | 79,329 | 76,308 | 86,271 |
| Sown Pasture Grazed (c) | 1,047,205 | 1,423,909 | 1,537,590 | 1,550,636 |
| Other Land Used for Grazing | 3,404,984 | 2,976,243 | 2,992,488 | 3,009,752 |
| Balance of Holdings | 1,684,815 | 1,528,361 | 1,500,516 | 1,413,507 |
| Total Area of All Holdings .. | 6,507,986 | 6,420,326 | 6,496,461 | 6,507,297 |

(a) Includes area of sown pasture cut for hay, seed, silage or green fodder; includes also orchards and small fruits.

(b) Excludes short or summer fallow.

(c) Excludes area cut for hay, seed, silage or green fodder.

Definition of 'Crops'

As defined in the previous table, crops are produced not only from cultivated fields and orcharding land but also from sown pasture if its growth is cut for hay, seed, silage or green fodder. The following table shows the total area of crops on this basis when double-cropping is taken into account:

**Total Area of Crops
(Acres)**

| Particulars | 1956-57 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------|---------|---------|---------|---------|
| Area Used for Crops (a) | 301,746 | 412,484 | 389,560 | 447,131 |
| Area Double Cropped | 105 | 3,672 | 7,217 | 8,891 |
| Total Area of Crops | 301,851 | 416,156 | 396,777 | 456,022 |

(a) First item in table 'Land Utilisation on Rural Holdings'.

Definition of 'Sown Pasture'

Sown pasture is defined in these statistics as 'clovers and grasses (other than native).' The next table shows the total area of sown pasture and distinguishes between areas cut for various purposes and areas simply grazed:

**Sown Pasture—Classification of Total Area
(Acres)**

| Particulars | 1956-57 | 1964-65 | 1965-66 | 1966-67 |
|--|-----------|-----------|-----------|-----------|
| Clover for Seed | 2,648 | 2,400 | 728 | 880 |
| Grass for Seed | 3,408 | 6,613 | 2,382 | 4,256 |
| Clover and Grasses Cut— | | | | |
| For Hay | 105,554 | 165,027 | 133,178 | 186,959 |
| For Silage and Green Fodder .. | 13,330 | 11,768 | 10,922 | 12,525 |
| Total 'Under Crop' .. | 124,940 | 185,808 | 147,210 | 204,619 |
| Clover and Grasses Grazed (Not Cut) | 1,047,205 | 1,423,909 | 1,537,590 | 1,550,636 |
| Total Sown Pasture .. | 1,172,145 | 1,609,717 | 1,684,799 | 1,755,255 |

The distribution in statistical divisions of sown pasture (1966-67) is given in acres: NW., 501,520; Midland, 368,010; NE., 352,596; North Midland, 248,947; SE., 165,198; Hobart and Southern combined, 117,522; rest of State, 1,464.

Trend in Land Utilisation

The total area of rural holdings is still approximately the same as it was at the end of World War I. The most striking change is the rapid development of sown pasture, the previous table showing a 50 per cent increase in the decade ending 1966-67. Twenty two years ago (1944-45), the area of sown pasture was under 500,000 acres, it passed 1,000,000 acres in 1955-56 and reached 1,755,000 acres in 1966-67. A similar increase has also occurred in the area of sown pasture cut for hay, seed, silage or green fodder and since this is, for the purpose of these statistics, a component of the area used for crops, variations in crop areas are affected by this factor.

In fact, the area of land under the plough is slightly less than it was 50 years ago, which does not indicate a lack of progress in farming but rather a change in the farming pattern. Grain crops are no longer the dominant item and many primary producers, through their development of sown pasture, have become grassland farmers with the mower and pick-up baler as their main

'harvesting' machines (as opposed to the reaper and binder on ploughed fields). The trend to grassland farming has meant greatly increased capacity to carry stock, the numbers of both sheep and cattle having more than doubled since World War I. (In the decade ending 1966-67 sheep have increased from 2.9 million to 4.3 million; cattle from 354,000 to 522,000. The percentage increases for the ten-year period are: sheep, 47 per cent; cattle, 47 per cent.)

Temporary and Permanent Pasture

It should be noted that some of the areas included as sown pasture are 'temporary' in the sense that they may be put under crop after some years of use for grazing. In the same sense, specific areas used for crops in any year are also 'temporary' since they may later be converted to sown pasture. This rotational pattern, characteristic of much of Tasmania's mixed farming, obviously is designed to maintain soil fertility at a high level and to guard against the soil exhaustion associated with the earlier era of intense cultivation of cash crops. 'Ley' farming is the technical term for this rotational method.

Farm statistics for 1966-67 showed the area of sown pasture as 1,755,255 acres and indicated that the trend of the previous decade is being maintained. The main seed varieties produced on Tasmanian farms (in cwt) in 1966-67 were: perennial ryegrass, 8,324; H.I. short rotation ryegrass, 1,590; Italian ryegrass, 1,068; white clover, 382; red clover, 231; cocksfoot, 49. The total weight of grass and clover seed harvested was 11,702 cwt (as compared with 5,316 cwt in 1965-66). In all years since 1960-61, perennial ryegrass seed has accounted for more than 60 per cent of the total seed harvested.

In the sowing of temporary pastures, the main grasses and clovers used are: ryegrass (perennial, Italian and hybrid) and red clover. Permanent pastures are based on perennial ryegrass and white clover with *phalaris tuberosa* and subterranean clover especially suitable for the drier regions and cocksfoot in the wetter.

Tasmania's capacity for extending the area of sown pasture is certainly not yet exhausted since, in 1966-67, in addition to the 1.76 million acres of sown pasture, there were a further three million acres of other land used for grazing.

Agriculture

Sufficient has been said on land utilisation to emphasise the trend to grassland farming. In the summary table below showing the area devoted to the principal crop types, the area of sown pasture cut for hay, seed, silage or green fodder is attributed to the appropriate crop, e.g. as a component of hay and green fodder areas.

**Area of Principal Crops—Summary
(Acres)**

| Crop | 1956-57 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------------|---------|---------|---------|---------|
| Cereals for Grain | 27,723 | 60,455 | 62,338 | 69,738 |
| Hay | 123,150 | 180,256 | 147,828 | 203,181 |
| Green Fodder | 61,745 | 79,199 | 89,153 | 86,843 |
| Field Peas (Blue, Grey and Other) | 12,402 | 7,545 | 7,866 | 5,982 |
| Vegetables for Stock Fodder .. | 14,861 | 26,595 | 29,726 | 29,907 |
| Grass Seed | 6,061 | 9,013 | 3,110 | 5,136 |
| Industrial Crops (Hops and Mustard) | 1,843 | 1,907 | 1,822 | 1,801 |
| Vegetables for Human Consumption | 30,058 | 26,998 | 30,539 | 28,747 |
| Orchard Fruit | 20,611 | 20,435 | 20,707 | 20,735 |
| Small Fruit | 2,383 | 1,940 | 1,719 | 1,608 |
| All Other Crops | 1,014 | 1,813 | 1,970 | 2,346 |
| Total Area of Crops .. | 301,851 | 416,156 | 396,777 | 456,022 |

Details of individual crops, their area, production and yield per acre, are shown in the next table:

Crops—Area, Production and Yield Per Acre

| Crop and Unit of Quantity | Average, Ten Years Ended 1965-66 | | | Year 1966-67 | | |
|--|----------------------------------|------------|-------------------|-----------------|------------|-------------------|
| | Area (Acres) | Production | | Area (Acres) | Production | |
| | | Total | Yield Per Acre | | Total | Yield Per Acre |
| CEREALS FOR GRAIN | | | | | | |
| Barley (bushels) | 14,018 | 442,777 | 31.59 | 21,057 | 771,750 | 36.65 |
| Oats (bushels) | 24,961 | 558,381 | 22.37 | 35,909 | 947,960 | 26.40 |
| Rye (bushels) | 333 | 4,762 | 14.30 | 25 | 165 | 6.60 |
| Wheat (bushels) | 11,078 | 271,487 | 24.51 | 12,747 | 385,243 | 30.22 |
| HAY | | | | | | |
| Grass & Clover(tons) | 130,536 | 242,739 | 1.86 | 186,959 | 401,820 | 2.15 |
| Oaten (tons) | 14,665 | 27,061 | 1.85 | 14,033 | 30,402 | 2.17 |
| Other (tons) | 3,309 | 6,360 | 1.92 | 2,189 | 4,685 | 2.14 |
| GRASS SEED | | | | | | |
| Clover (cwt) | 1,297 | 860 | 0.66 | 880 | 632 | 0.72 |
| Other (a) (cwt) | 2,930 | 6,865 | 2.23 | 4,256 | 11,071 | 2.13 |
| FIELD PEAS | | | | | | |
| Blue (bushels) | 4,860 | 103,012 | 21.19 | 4,372 | 111,658 | 25.54 |
| Grey & Other (,,) | 4,902 | 91,407 | 18.65 | 1,610 | 40,170 | 24.95 |
| VEGETABLES FOR STOCK FODDER | | | | | | |
| Horse Beans (bush.) | 432 | 9,346 | 21.64 | 331 | 8,284 | 25.03 |
| Turnips—Swede and White (tons) | 22,972 | (b) | (b) | 29,520 | (b) | (b) |
| Other | 272 | .. | .. | 56 | .. | .. |
| INDUSTRIAL CROPS | | | | | | |
| Hops (c) (lb) | 1,438 | 2,646,000 | 1,840 | 1,468 | 2,091,000 | 1,424 |
| Mustard (lb) | 331 | 137,000 | 413 | 245 | 130,000 | 531 |
| VEGETABLES FOR HUMAN CONSUMPTION | | | | | | |
| Beans, French and Runner ('000 lb) | 344 | 2,386 | 6.931 | 970 | 8,127 | 8.378 |
| Peas, Green (d)— For Processing(,,) | 10,911 | 28,792 | 2.597 | 15,221 | 56,689 | 3.711 |
| Sold in Pod (,,) | 278 | 268 | .. | 83 | 101 | .. |
| Potatoes (tons) | 14,057 | 76,814 | 5.46 | 10,278 | 73,300 | 7.13 |
| Turnips—Swede and White (tons) | 946 | 6,099 | 6.44 | 592 | 4,235 | 7.15 |
| Other Vegetables | 1,319 | .. | .. | 1,602 | .. | .. |

*Primary Industry—Rural**Crops—Area, Production and Yield Per Acre—continued*

| Crop and Unit of Quantity | Average, Ten Years Ended 1965-66 | | | Year 1966-67 | | |
|------------------------------|----------------------------------|------------|-------------------|-----------------|------------|-------------------|
| | Area (Acres) | Production | | Area (Acres) | Production | |
| | | Total | Yield Per Acre | | Total | Yield Per Acre |
| ORCHARD FRUIT | | | | | | |
| Bearing— | | | | | | |
| Apples (bushels) | 15,951 | 6,335,830 | 397 | 15,235 | 6,301,000 | 414 |
| Apricots (bushels) | 575 | 48,360 | 84 | 344 | 20,500 | 60 |
| Pears (bushels) | 1,456 | 496,102 | 341 | 1,398 | 404,000 | 289 |
| Plums & Prunes (,,) | 88 | 18,308 | 208 | 46 | 8,000 | 174 |
| Other | 51 | .. | .. | 90 | .. | .. |
| Non-bearing Areas | 2,120 | .. | .. | 3,622 | .. | .. |
| SMALL FRUIT | | | | | | |
| Bearing— | | | | | | |
| Currants (Black & Red) (lb) | 864 | 2,836,000 | 3,282 | 695 | 2,715,000 | 3,908 |
| Gooseberries (lb) | 36 | 320,000 | 8,889 | 33 | 150,000 | 4,545 |
| Loganberries (lb) | 179 | 1,107,000 | 6,184 | 139 | 681,000 | 4,899 |
| Raspberries (lb) | 865 | 4,268,000 | 4,934 | 577 | 3,240,000 | 5,615 |
| Strawberries (lb) | 82 | 329,000 | 4,012 | 67 | 262,000 | 3,910 |
| Non-bearing Areas | 189 | .. | .. | 97 | .. | .. |

(a) Production includes seed harvested from areas sown to oats for grain; this seed is excluded from the average yield figures.

(b) Not available.

(c) Non-bearing area excluded; production expressed in dry weight.

(d) Ex-shell weight.

Summary of Principal Crops

The following table summarises the area of selected principal crops and gives details of production for recent years:

Selected Principal Crops—Area and Production

| Crop | 1956-57 | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|------------------------|---------|---------|---------|---------|---------|---------|---------|
| AREA (ACRES) | | | | | | | |
| Barley for Grain .. | 7,079 | 18,728 | 19,751 | 13,790 | 15,479 | 19,907 | 21,057 |
| Oats for Grain .. | 16,559 | 26,953 | 31,104 | 30,344 | 28,086 | 28,290 | 35,909 |
| Wheat for Grain .. | 3,900 | 15,568 | 15,340 | 17,562 | 16,805 | 14,107 | 12,747 |
| Hay | 123,150 | 157,238 | 165,442 | 149,640 | 180,256 | 147,828 | 203,181 |
| Field Peas .. | 12,402 | 8,101 | 9,459 | 10,982 | 7,545 | 7,866 | 5,982 |
| Grass Seed .. | 6,056 | 3,818 | 5,297 | 3,734 | 9,013 | 3,110 | 5,136 |
| Hops—Bearing.. | 1,405 | 1,411 | 1,452 | 1,462 | 1,475 | 1,491 | 1,468 |
| Peas, Green— | | | | | | | |
| For Processing .. | 7,284 | 12,823 | 12,684 | 11,884 | 14,995 | 15,907 | 15,221 |
| Sold in Pod .. | 704 | 139 | 144 | 186 | 215 | 133 | 83 |
| Potatoes | 19,125 | 11,129 | 13,839 | 10,806 | 9,393 | 11,993 | 10,278 |
| Bearing— | | | | | | | |
| Apples | 16,690 | 15,417 | 15,489 | 15,545 | 15,532 | 15,454 | 15,235 |
| Pears | 1,500 | 1,471 | 1,454 | 1,460 | 1,469 | 1,435 | 1,398 |
| Currants (Black & Red) | 820 | 902 | 946 | 978 | 875 | 765 | 695 |
| Loganberries .. | 210 | 162 | 173 | 166 | 124 | 108 | 139 |
| Raspberries .. | 1,051 | 838 | 753 | 753 | 703 | 651 | 577 |
| Strawberries .. | 118 | 72 | 91 | 80 | 70 | 74 | 67 |

Selected Principal Crops—Area and Production—*continued*

| Crop | 1956-57 | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|------------------------------------|---------|---------|---------|---------|---------|---------|---------|
| PRODUCTION | | | | | | | |
| Barley for Grain (bushels) | 235,028 | 606,927 | 630,966 | 414,230 | 529,377 | 683,827 | 771,750 |
| Oats for Grain (bushels) | 252,655 | 587,183 | 827,508 | 843,643 | 520,470 | 676,739 | 947,960 |
| Wheat for Grain (bushels) | 88,555 | 345,111 | 418,921 | 482,757 | 364,161 | 368,351 | 385,243 |
| Hay (tons) | 238,383 | 285,390 | 313,004 | 249,176 | 364,356 | 257,237 | 436,907 |
| Field Peas (bushels) | 267,239 | 180,421 | 193,494 | 186,533 | 190,376 | 148,576 | 151,828 |
| Grass Seed (cwt) | 8,130 | 4,757 | 10,549 | 7,361 | 19,934 | 5,316 | 11,702 |
| Hops ('000 lb) | 2,147 | 2,837 | 2,862 | 1,580 | 2,088 | 3,069 | 2,091 |
| Peas, Green— | | | | | | | |
| For Processing ('000 lb) | 14,342 | 37,479 | 32,986 | 32,757 | 51,383 | 51,114 | 56,689 |
| Sold in Pod ('000 lb) | 585 | 161 | 138 | 187 | 255 | 153 | 101 |
| Potatoes (tons) | 89,700 | 71,560 | 82,545 | 66,420 | 57,062 | 76,400 | 73,300 |
| Apples ('000 bushels) | 3,401 | 7,844 | 6,262 | 8,545 | 6,207 | 8,364 | 6,301 |
| Pears ('000 bushels) | 292 | 566 | 415 | 625 | 490 | 650 | 404 |
| Currents (Black and Red) ('000 lb) | 2,578 | 2,197 | 3,082 | 2,955 | 2,300 | 2,936 | 2,715 |
| Loganberries ('000 lb) | 1,018 | 1,431 | 1,188 | 977 | 623 | 675 | 681 |
| Raspberries ('000 lb) | 4,750 | 4,816 | 3,468 | 3,841 | 3,374 | 3,502 | 3,240 |
| Strawberries ('000 lb) | 503 | 275 | 370 | 175 | 317 | 218 | 262 |

Principal Crops

The data on acreage and production of crops are compiled, in general, to give totals for each municipality. In subsequent parts of this chapter dealing with geographical distribution, the information is presented only in Statistical Divisions; however, the component attributable to the North Central and Western Divisions (i.e. the City of Launceston and the western mining districts) is so small that they are combined and described as 'Rest of State'. Also, in the following tables, the Hobart Division has been combined with the Southern, since the aim is to give the distribution in broad outline and not in detail.

Cereals for Grain

The next table shows the geographical distribution of cereal grain growing:

**Cereals for Grain—Area of Crops in Statistical Divisions, 1966-67
(Acres)**

| Cereals for Grain | N.W. | NE. | North Midland | Midland | SE. | Hobart and Southern | Rest of State | Total |
|-------------------|--------|-------|---------------|---------|--------|---------------------|---------------|--------|
| Barley .. | 7,362 | 1,691 | 5,042 | 930 | 3,999 | 2,034 | .. | 21,057 |
| Oats .. | 2,802 | 2,743 | 12,218 | 12,225 | 4,254 | 1,668 | .. | 35,909 |
| Rye .. | .. | .. | .. | 10 | 15 | .. | .. | 25 |
| Wheat .. | 1,347 | 221 | 3,656 | 4,493 | 2,236 | 796 | .. | 12,747 |
| Total .. | 11,511 | 4,655 | 20,916 | 17,658 | 10,504 | 4,498 | .. | 69,738 |

The area for grain under barley and wheat has tended to increase in recent years, 1956-57 acreages being barley, 7,079; wheat, 3,900. Although areas of oats for grain over the last five years have been at the highest level for 25 years, the increases have not been as great as for barley and wheat.

Hay and Green Fodder

The following table shows the geographical distribution of hay and green fodder crops:

**Hay and Green Fodder—Area of Crops in Statistical Divisions, 1966-67
(Acres)**

| Crop | N.W. | NE. | North Midland | Midland | SE. | Hobart and Southern | Rest of State | Total |
|----------------|--------|--------|---------------|---------|--------|---------------------|---------------|---------|
| Hay— | | | | | | | | |
| Grass & Clover | 85,817 | 34,234 | 31,784 | 12,091 | 10,562 | 12,240 | 234 | 186,959 |
| Oaten .. | 5,641 | 1,944 | 3,324 | 816 | 1,548 | 730 | 32 | 14,033 |
| Other .. | 470 | 199 | 454 | 573 | 242 | 250 | .. | 2,189 |
| Total Hay | 91,928 | 36,377 | 35,562 | 13,480 | 12,352 | 13,220 | 266 | 203,181 |
| Green Fodder | 27,127 | 14,381 | 12,836 | 19,235 | 8,213 | 5,041 | 11 | 86,843 |

It should be noted that the 'hay, grass and clover' area in the table (186,959 acres) relates to hay produced by mowing sown pasture. Reference to a previous table on the geographical distribution of sown pasture indicates that the North West Division has the largest area used in this way and is therefore in the best position to produce hay.

The primacy of the North West Division in acreage under hay and green fodder can be related to the fact that it carries 50 per cent of the State's cattle and is the principal dairying area.

The chief sources of green fodder are areas sown to oats (usually about 50 to 60 per cent of total green fodder acreage), and areas of grasses and clovers cut from sown pasture (13 per cent in 1966-67); other green fodder crops are obtained from chou moellier, barley, lucerne, millet, rape, ryecorn and wheat.

Oats for Grain, Hay and Green Fodder

In 1965-66, 101,000 acres of oats were sown either for grain, hay, or green fodder (i.e. over 25 per cent of the total area of crops grown). For many years, oats were mainly Algerian, which in 1959-60 accounted for 90 per cent of all varieties sown. By 1965-66, the proportion of Algerian oats had declined to 54 per cent and Blythe oats, insignificant in 1959-60, represented 36 per cent of the crop. The main varieties of oats sown are shown in the following table:

**Varieties of Oats Sown (a)
(Acres)**

| Year | White | Algerian | Blythe | Other | Total |
|---------------|-------|----------|--------|-------|---------|
| 1959-60 | 2,894 | 71,280 | 1,388 | 3,912 | 79,474 |
| 1962-63 | 3,438 | 50,116 | 33,804 | 4,842 | 92,200 |
| 1965-66 | 4,046 | 54,230 | 36,174 | 6,667 | 101,117 |

(a) For all purposes, i.e. grain, hay or green fodder. Dissection by variety is obtained every third year.

Vegetables for Human Consumption

As previous acreage and production tables indicated, there has been a decline in potato growing; the next table traces the history of this crop over the last one hundred years:

Potatoes—Area Under Crop and Total Production, Selected Years

| Year | Area | Production | | Year | Area | Production | |
|-----------|----------------|----------------|-------------------|-------------|-----------------|----------------|-------------------|
| | | Total | Yield Per Acre | | | Total | Yield Per Acre |
| 1860-61.. | acres 7,621 | tons 33,589 | tons 4.41 | 1930-31 .. | acres 37,229 | tons 95,289 | tons 2.56 |
| 1870-71.. | 9,823 | 36,028 | 3.41 | 1940-41 .. | 37,364 | 114,041 | 3.05 |
| 1880-81.. | 10,421 | 32,548 | 3.12 | 1944-45 (a) | 81,092 | 345,232 | 4.26 |
| 1890-91.. | 20,133 | 73,158 | 3.63 | 1950-51 .. | 31,581 | 124,000 | 3.93 |
| 1900-01.. | 23,068 | 93,862 | 4.07 | 1960-61 .. | 10,875 | 39,050 | 3.59 |
| 1910-11.. | 26,230 | 70,090 | 2.67 | 1965-66 .. | 11,993 | 76,400 | 6.37 |
| 1920-21.. | 32,000 | 88,679 | 2.77 | 1966-67 .. | 10,278 | 73,300 | 7.13 |

(a) Peak acreage and production year.

Potato growing was for many years a major activity in the NW. Statistical Division and even in 1966-67, approximately 80 per cent of the acreage and production of the State's potato crop was located in that area. The size of the Tasmanian potato crop has always been influenced by the demand from other States, in particular, New South Wales. In 1951-52, over one hundred thousand tons were exported; in the last four years annual exports have not exceeded 32,000 tons. The considerably increased yield per acre in recent years has been due mainly to the greater use of irrigation and artificial fertilizers. (See 'Technical Aspects of Rural Industry' later in this chapter.)

The decline in this export crop has been largely offset by increased opportunities for disposing of other vegetable crops to dehydrating, canning and deep-freezing plants developed on the North-West coast and in the Scottsdale area since World War II. The main crop now grown for processing is green peas, their area in 1966-67 exceeding the area planted to potatoes (15,304 acres as against 10,278 acres); a demand by processing plants also exists for other vegetables including french and runner beans, asparagus, beetroot, cabbages, cauliflowers, carrots, celery, broccoli, blue peas, parsnips, turnips, onions, tomatoes and potatoes.

The concentration of vegetable growing in certain areas of the State is illustrated in the following table which has been restricted to specification of three selected crops:

Vegetables for Sale for Human Consumption (a)
Area Under Selected Crops in Statistical Divisions, Season 1966-67
(Acres)

| Crop | NW. | NE. | North Midland | Midland | SE. | Hobart and Southern | Rest of State | Total |
|--------------------------|--------|-------|---------------|---------|-----|---------------------|---------------|--------|
| Beans, French and Runner | 930 | 29 | 2 | .. | 1 | 9 | .. | 970 |
| Peas, Green .. | 10,822 | 1,784 | 2,645 | 4 | 9 | 41 | .. | 15,304 |
| Potatoes .. | 8,168 | 931 | 60 | 523 | 191 | 395 | 10 | 10,278 |
| All Other Vegetables .. | 752 | 655 | 127 | 48 | 84 | 517 | 6 | 2,194 |
| Total .. | 20,676 | 3,399 | 2,834 | 574 | 284 | 962 | 16 | 28,747 |

(a) Includes vegetables for processing.

Grass Seed

The geographical distribution (in acres) of areas yielding grass seed in 1966-67 was as follows: NW., 992; NE., 798; N. Midland, 2,000; Midland, 663; SE., 504; Hobart and Southern combined, 180; total, 5,136.

Field Peas and Vegetables for Stock Fodder

The geographical distribution of these crops is shown as follows:

**Field Peas and Vegetables for Stock Fodder—Area of Crops in Statistical Divisions, 1966-67
(Acres)**

| Crop | NW. | NE. | North Midland | Midland | SE. | Hobart and Southern | Rest of State | Total |
|------------------------------|-------|-------|---------------|---------|-------|---------------------|---------------|--------|
| Field Peas— | | | | | | | | |
| Blue .. | 930 | 383 | 2,939 | 78 | 40 | 3 | .. | 4,372 |
| Grey and .. | 721 | 151 | 668 | 2 | 43 | 25 | .. | 1,610 |
| Other .. | | | | | | | | |
| Vegetables for Stock Fodder— | | | | | | | | |
| Horse Beans | 138 | 131 | 56 | .. | .. | 6 | .. | 331 |
| Turnips .. | 9,161 | 9,048 | 3,577 | 5,213 | 1,716 | 797 | 10 | 29,520 |
| Other .. | 41 | 8 | 7 | .. | .. | 2 | .. | 56 |

Hops

The principal industrial crop is hops grown mainly in the Derwent Valley, with most production in the Southern Statistical Division, and, across the Derwent, in the Midland Division. In 1966-67, the State's hop-bearing area was 1,468 acres. Hop growing is now being developed in other parts of the State.

Tasmania has for many years been the principal Australian grower of hops, producing over 70 per cent of the crop; hops are mainly used in brewing beer.

Orchard Fruit and Small Fruit

The geographical distribution of orchards and small fruit areas is shown below:

**Orchard Fruit and Small Fruit—Area (Bearing and Non-Bearing) in Statistical Divisions, 1966-67
(Acres)**

| Fruit | NW. | NE. | North Midland | Midland | SE. | Hobart and Southern | Rest of State | Total |
|----------------|-------|-------|---------------|---------|-----|---------------------|---------------|--------|
| Orchard Fruit | 1,028 | 3,732 | 9 | 4 | 469 | 15,495 | .. | 20,735 |
| Small Fruit .. | 6 | 12 | 1 | 184 | 31 | 1,373 | .. | 1,608 |

Orcharding is heavily concentrated in and around the Huon Valley (Southern Statistical Division); the other main area is in the Tamar Valley (NE. Division). Small-fruit growing is almost entirely confined to the Derwent Valley and the Huon Valley.

On the average over recent years, the value of the apple crop alone has represented one third of the value of the State's total agricultural production. The next table gives recent details of area, production and average yield:

Apples—Area and Production

| Year | Area | | Number of Trees | | Production | | |
|---------|-----------------|----------------|-----------------|-------------|--------------------|----------------|-----------------|
| | Bearing | Non-Bearing | Bearing | Non-Bearing | Total | Yield | |
| | | | | | | Per Acre | Per Tree |
| 1962-63 | acres 15,489 | acres 1,894 | '000 2,277 | '000 278 | '000 bush 6,262 | bushels 404 | bushels 2.75 |
| 1963-64 | 15,545 | 2,076 | 2,305 | 308 | 8,545 | 550 | 3.71 |
| 1964-65 | 15,532 | 2,543 | 2,310 | 378 | 6,207 | 400 | 2.70 |
| 1965-66 | 15,454 | 2,935 | 2,266 | 430 | 8,364 | 541 | 3.69 |
| 1966-67 | 15,235 | 3,305 | 2,257 | 490 | 6,301 | 414 | 2.79 |

After World War I, apple acreage was 26,000 acres but the decline in area since then has been more than offset by greatly increased average yield per acre. The low figure for 1966-67 can be related to very dry conditions in the south. The change in the marketing pattern, as between overseas, interstate, etc. is shown in the next table, with 1939 taken as the startpoint:

Disposal of Apple Crop

| Particulars | 1939 | | 1957 | | 1967 | |
|---------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | '000 Bushels | Per Cent (a) | '000 Bushels | Per Cent (a) | '000 Bushels | Per Cent (a) |
| Exports—Overseas | 3,341 | 58.4 | 2,287 | 67.2 | 4,364 | 69.3 |
| Interstate | 1,945 | 34.0 | 390 | 11.5 | 126 | 2.0 |
| Used in Factories | 379 | 6.6 | 528 | 15.5 | 1,028 | 16.3 |
| Local Markets, etc. | 59 | 1.0 | 196 | 5.8 | (b) 783 | 12.4 |
| Total | 5,724 | 100.0 | 3,401 | 100.0 | 6,301 | 100.0 |

(a) Proportion of total crop.

(b) Includes 327,000 bushels not disposed of due to lack of markets.

In the 1967-68 season, devaluation of sterling threatened to reduce the return to overseas exporters and the Commonwealth Government outlined a scheme in May 1968, the main provision being a 50 cent subsidy for each bushel of apples exported and 53 cents for each bushel of pears exported.

Production of small fruits in the State has dropped by two thirds over the last 20 years. In spite of this, Tasmanian production is over half the total for Australia. The decline is shown in the following table:

Principal Small Fruits—Area and Production

| Year | Currants (Black & Red) | | Loganberries | | Raspberries | | Strawberries | |
|----------------|---------------------------|------------|--------------|------------|--------------|------------|--------------|------------|
| | Bearing Area | Production | Bearing Area | Production | Bearing Area | Production | Bearing Area | Production |
| | acres | '000 lb | acres | '000 lb | acres | '000 lb | acres | '000 lb |
| 1948-49 (a) .. | 2,006 | 6,030 | 213 | 837 | 2,086 | 7,603 | 250 | 871 |
| 1962-63 .. | 946 | 3,082 | 173 | 1,188 | 753 | 3,468 | 91 | 370 |
| 1963-64 .. | 978 | 2,955 | 166 | 977 | 753 | 3,841 | 80 | 175 |
| 1964-65 .. | 875 | 2,300 | 124 | 623 | 703 | 3,374 | 70 | 317 |
| 1965-66 .. | 765 | 2,936 | 108 | 675 | 651 | 3,502 | 74 | 218 |
| 1966-67 .. | 695 | 2,715 | 139 | 681 | 577 | 3,240 | 67 | 262 |

(a) Representative year from period when small fruit areas were at record level.

'All Other Crops'

In the table 'Area of Principal Crops' appears an item 'All other crops', (2,346 acres in 1966-67). These crops, not specified in previous tables, include oil poppies, lavender, flower seeds, cut flowers, a variety of crops grown for seed, and green manure crops (e.g. lupins).

LIVESTOCK**Introduction**

This subject is dealt with in two parts:

- (i) Number of Livestock on Rural Holdings;
- (ii) Livestock Products.

The first part needs no definition but the second part (livestock products) requires explanation. In relation to the various types of livestock, the following products are included:

Cattle — meat, milk, butter, cheese.

Sheep — meat, wool.

Pigs — meat.

Poultry — meat, eggs.

It should be noted that some of these products (e.g. butter and cheese) are made, in the main, in establishments classified as factories. From a theoretical point of view, it can therefore be correctly argued that some livestock products are attributable to secondary, rather than primary, industry; it is nevertheless impossible to describe adequately the pattern and scale of livestock farming without giving details of factory production of these items.

Number of Livestock on Rural Holdings

The following summary table shows the numbers of livestock on rural holdings since 1860:

Livestock on Rural Holdings—Selected Years

| Year | Horses | Cattle | Sheep | Pigs |
|---|--------------|--------------|--------------|--------------|
| 1860 (a) | no. 21,034 | no. 83,366 | '000 1,701 | no. 31,290 |
| 1870 (a) | 22,679 | 101,459 | 1,350 | 49,432 |
| 1880 (a) | 25,267 | 127,187 | 1,794 | 48,029 |
| 1890 (a) | 31,165 | 162,440 | 1,619 | 81,716 |
| 1900 (a) | 31,607 | 165,516 | 1,684 | 68,291 |
| 1910 (a) | 41,388 | 201,854 | 1,788 | 63,715 |
| 1919-20 (a) | 39,452 | 214,442 | 1,781 | 35,530 |
| 1929-30 (b) | 34,336 | 214,643 | 2,091 | 52,899 |
| 1939-40 (b) | 29,605 | 252,484 | 2,677 | 44,941 |
| 1949-50 (c) | 21,197 | 274,740 | 2,170 | 35,841 |
| 1959-60 (c) | 10,512 | 375,342 | 3,494 | 67,118 |
| 1966-67 (c) | 6,660 | 521,664 | 4,321 | 85,654 |
| 1966-67—Tasmanian numbers as proportion of Australian total | 1.4 per cent | 2.9 per cent | 2.6 per cent | 4.7 per cent |
| 1967-68 (c) | n.a. | 563,726 | 4,428 | 86,517 |

(a) At varying dates.

(b) At 31 December.

(c) At 31 March.

Cattle

Classification

The traditional way of classifying cattle has been to call them either 'dairy' or 'beef' cattle, but this has possibly been confusing since the terms may refer either to *purpose* or *breed*. In the period 1942-43 to 1962-63, the annual farm census required this dissection but the terms were not defined. The classification was obviously difficult for a farmer who was engaged not only in producing milk for sale but also in marketing cattle for meat production. In 1963-64, the cattle questions were amended as follows: (i) bulls were to be classified by *breed*; (ii) 'house cows' were to be specified separately; (iii) all other cattle were to be classified according to *purpose*; i.e. milk production or meat production. The results of the 1966-67 farm census are given, the table showing the way in which the questions were asked and providing an analysis in which it is possible to isolate the number of cows and heifers *directly* associated with dairying (i.e. the fourth, fifth and sixth items on the collection form).

Description of Cattle on Rural Holdings, 31 March 1967
(Form Used for Collection)

| | | | |
|-------------------------|---|---|-----------------------------|
| Cattle and Calves | Bulls used or intended For Service | Bulls (1 year and over)—Dairy Breeds Beef Breeds Bull Calves (under 1 year) | 3,890 5,204 3,686 |
| | Cows and Heifers used or intended for production (for sale) of Milk and Cream | Cows—In Milk and Dry at 31 March.. Heifers (1 year and over) Heifer Calves (under 1 year) | 149,148 47,521 44,494 |
| | House Cows (in milk and dry) and Heifers (one year and over) being kept primarily for own milk supply | | 5,762 |
| | Other Cattle and Calves (not included above) i.e. mainly for Meat Production | Cows and Heifers (1 year and over) .. Calves (under 1 year) including Vealers Other (1 year and over) i.e. Steers, Bullocks, etc. | 112,885 97,748 51,326 |
| | Total Cattle and Calves for all Purposes | | 521,664 |

The total of 'cows and heifers used or intended for production (for sale) of milk and cream' in the previous table (241,163) can be associated directly with the dairying industry. In the same way, the total of 'other cattle and calves, i.e. mainly for meat production' (261,959) can be associated directly with the beef cattle industry. Comparable figures from 1964 when the classification was first used are: cows and heifers associated with the dairying industry, 223,435; cattle and calves associated with the beef cattle industry, 207,698.

The previous change in classification makes it impossible to compare, in full detail, the description of cattle in 1963-64 and subsequent years with descriptions reported in previous years but the following table is compiled to show broad groups regarded as generally comparable:

Description of Cattle on Rural Holdings

| At 31 March | Number of Holdings with Cattle | Bulls (1 yr & over) | Cows and Heifers (1 yr & over) | Calves (Under 1 yr) | Other Cattle | Total Cattle |
|-------------|--------------------------------|---------------------|--------------------------------|---------------------|--------------|--------------|
| 1950 | 9,759 | 6,186 | 158,424 | 60,601 | 49,529 | 274,740 |
| 1955 | 9,668 | 7,002 | 194,016 | 78,252 | 40,147 | 319,417 |
| 1960 | 9,031 | 7,237 | 229,162 | 100,849 | 38,094 | 375,342 |
| 1963 | 8,671 | 8,944 | 270,223 | 122,383 | 42,053 | 443,603 |
| 1964 | 8,547 | (a) 8,125 | 276,190 | 122,385 | 43,298 | 449,998 |
| 1965 | 8,384 | (a) 8,311 | 283,955 | 119,455 | 39,750 | 451,471 |
| 1966 | 8,667 | (a) 8,816 | 298,954 | 141,536 | 42,611 | 491,917 |
| 1967 | 8,598 | (a) 9,094 | 315,316 | 145,928 | 51,326 | 521,664 |

(a) The specification of 'Bull Calves (under 1 year)' from 1963-64 may have affected the comparability of this figure.

The distribution of holdings with cattle is shown below:

Cattle on Rural Holdings in Statistical Divisions, 31 March 1967

| Particulars | NW. | NE. | North Mid-land | Mid-land | SE. | Hobart and South-ern | Rest of State | Total |
|-------------------------------------|---------|---------|----------------|----------|--------|----------------------|---------------|---------|
| Holdings with Cattle | 3,735 | 1,476 | 776 | 526 | 496 | 1,570 | 19 | 8,598 |
| Total Cattle (All Descriptions) .. | 260,285 | 109,255 | 52,186 | 46,157 | 18,132 | 34,556 | 1,093 | 521,664 |
| Cows in Milk and Dry (a) | 102,051 | 25,882 | 10,746 | 2,513 | 1,946 | 5,980 | 30 | 149,148 |
| Heifers (1 year and over) (a) | 30,677 | 8,072 | 4,179 | 1,019 | 1,067 | 2,494 | 13 | 47,521 |
| Heifer Calves (under 1 year) (a) .. | 29,113 | 8,332 | 3,594 | 880 | 686 | 1,865 | 24 | 44,494 |
| Total (a) .. | 161,841 | 42,286 | 18,519 | 4,412 | 3,699 | 10,339 | 67 | 241,163 |
| Bulls (1 yr and over)– | | | | | | | | |
| Dairy Breeds .. | 2,498 | 657 | 341 | 70 | 91 | 230 | 3 | 3,890 |
| Beef Breeds .. | 1,733 | 1,172 | 725 | 813 | 264 | 482 | 15 | 5,204 |

(a) 'Cows and heifers used or intended for production (for sale) of milk and cream'. The total (241,163) can be associated directly with the dairying industry.

Breeds of Cattle

The main breeds of dairy cattle in Tasmania are Jersey, Ayrshire, milking Shorthorn, Friesian and Guernsey, while beef breeds are Hereford, Devon, Aberdeen Angus and Shorthorn.

Sheep

The table below indicates the increase in sheep since the end of World War II and shows their number has doubled.

Sheep on Rural Holdings At 31 March ('000)

| Year | Sheep | Year | Sheep | Year | Sheep | Year | Sheep |
|---------|-------|---------|-------|---------|-------|---------|-------|
| 1945 .. | 2,156 | 1951 .. | 2,182 | 1957 .. | 2,943 | 1963 .. | 3,570 |
| 1946 .. | 1,926 | 1952 .. | 2,338 | 1958 .. | 3,298 | 1964 .. | 3,600 |
| 1947 .. | 1,933 | 1953 .. | 2,422 | 1959 .. | 3,536 | 1965 .. | 3,793 |
| 1948 .. | 2,087 | 1954 .. | 2,465 | 1960 .. | 3,494 | 1966 .. | 4,127 |
| 1949 .. | 2,160 | 1955 .. | 2,595 | 1961 .. | 3,439 | 1967 .. | 4,321 |
| 1950 .. | 2,170 | 1956 .. | 2,673 | 1962 .. | 3,532 | 1968 .. | 4,428 |

The next table shows the geographical distribution of sheep, also the various descriptions and the outcome of the lambing season:

Description of Sheep at 31 March 1967 in Statistical Divisions

| Particulars | NW. | NE. | North Mid-land | Midland | SE. | Hobart and South-ern | Rest of State | Total |
|---------------------------------------|---------|---------|----------------|-----------|---------|----------------------|---------------|-----------|
| Holdings with Sheep | 1,591 | 948 | 774 | 652 | 615 | 635 | 9 | 5,224 |
| Sheep— | | | | | | | | |
| Rams (1 year and over) .. | 7,320 | 8,029 | 10,836 | 13,176 | 5,750 | 2,166 | 8 | 47,285 |
| Breeding Ewes .. | 313,759 | 349,846 | 419,479 | 535,945 | 262,557 | 115,220 | 525 | 1,997,331 |
| Other Ewes (1 year and over) .. | 13,958 | 26,963 | 35,619 | 56,605 | 23,518 | 7,724 | 7 | 164,394 |
| Wethers (1 year and over) .. | 45,387 | 178,052 | 193,492 | 406,863 | 150,104 | 48,279 | 14 | 1,022,191 |
| Lambs and Hoggets (under one year) .. | 159,007 | 180,170 | 219,913 | 335,949 | 145,278 | 49,640 | 58 | 1,090,015 |
| Total Sheep and Lambs .. | 539,431 | 743,060 | 879,339 | 1,348,538 | 587,207 | 223,029 | 612 | 4,321,216 |
| Lambing, Season 1966— | | | | | | | | |
| Ewes Mated .. | 264,568 | 294,102 | 346,463 | 455,074 | 231,849 | 95,466 | 554 | 1,688,076 |
| Lambs Marked— | | | | | | | | |
| Number .. | 257,293 | 270,673 | 328,819 | 419,787 | 208,634 | 88,774 | 421 | 1,574,401 |
| Marking Ratio (a) .. | 97.3 | 92.0 | 94.9 | 92.3 | 90.0 | 93.0 | 76.0 | 93.3 |

(a) Lambs marked as percentage of ewes mated.

The following table summarises the description of sheep on a State basis and also gives details of lambing:

Description of Sheep at 31 March and Details of Lambing—Summary

| Particulars | 1957 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Holdings with Sheep .. | 5,500 | 5,675 | 5,415 | 5,255 | 5,114 | 5,276 | 5,224 |
| Sheep ('000)— | | | | | | | |
| Rams (1 year and over) .. | 34 | 43 | 42 | 41 | 43 | 45 | 47 |
| Breeding Ewes .. | 1,347 | 1,548 | 1,608 | 1,567 | 1,739 | 1,826 | 1,997 |
| Other Ewes (1 year and over) .. | 141 | 208 | 195 | 193 | 157 | 172 | 164 |
| Wethers (1 year and over) .. | 686 | 848 | 886 | 890 | 943 | 951 | 1,022 |
| Lambs and Hoggets (under one year) .. | 735 | 885 | 839 | 909 | 910 | 1,133 | 1,090 |
| Total Sheep and Lambs .. | 2,943 | 3,532 | 3,570 | 3,600 | 3,792 | 4,127 | 4,321 |
| Lambing (a)— | | | | | | | |
| Ewes Mated ('000) .. | 1,150 | 1,440 | 1,419 | 1,458 | 1,478 | 1,651 | 1,688 |
| Lambs Marked— | | | | | | | |
| Number ('000) .. | 1,056 | 1,368 | 1,310 | 1,353 | 1,374 | 1,594 | 1,574 |
| Marking Ratio (b) | 91.8 | 95.0 | 92.3 | 92.8 | 93.0 | 96.5 | 93.3 |

(a) In the season preceding the year named.

(b) Lambs marked as percentage of ewes mated.

Breeds of Sheep

Over the last ten years, the breeds of sheep reported by growers have shown a trend in favour of Polwarths and Corriedales with a slight relative decline in Merinos and a greater decline in Comebacks and Crossbreds. The following table shows the percentage of the main breeds of sheep (including rams):

**Proportion of Breeds of Sheep at 31 March
(Per Cent)**

| Breed | 1957 | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------------------------|-------|-------|-------|-------|-------|-------|
| Polwarth | 28.2 | 35.8 | 36.7 | 38.6 | 39.3 | 39.9 |
| Corriedale | 14.8 | 16.1 | 16.3 | 17.8 | 18.6 | 19.5 |
| Merino | 10.8 | 9.7 | 9.7 | 9.3 | 8.7 | 8.0 |
| Romney Marsh | 2.2 | 2.5 | 2.3 | 2.2 | 2.1 | 2.2 |
| Border Leicester | 1.6 | 1.3 | 1.1 | 1.1 | 1.0 | 1.0 |
| Other Breeds (a) | 2.9 | 3.1 | 2.4 | 2.2 | 2.4 | 2.0 |
| Comebacks.. | 13.3 | 11.5 | 12.2 | 11.1 | 10.0 | 10.5 |
| Crossbreds | 26.2 | 20.0 | 19.3 | 17.7 | 17.9 | 17.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

(a) Recognised breeds of sheep which individually, in 1967, accounted for less than one per cent of all sheep; includes Cheviot, Dorset Horn, English Leicester, Ryeland, Southdown, Suffolk, Lincoln, Poll Dorset and Shropshire.

The Polwarths and Merino Comebacks are well adapted to the sparse grazing of the plateau regions of the Midland Statistical Division. While the Corriedales are mainly run on improved pasture, the Merinos tend to thrive in the drier regions on native grasses; increasing numbers of Merinos are now being raised on sown and semi-improved pastures, the theory that they *had* to be run on hard country being discredited.

Pigs

The geographical distribution of pigs is shown in the next table:

**Description of Pigs in Statistical Divisions
At 31 March 1967**

| Particulars | NW. | NE. | North Mid- land | Mid- land | SE. | Hobart and South- ern | Rest of State | Total |
|-----------------------|--------|--------|-----------------------|--------------|-------|--------------------------------|---------------------|--------|
| Holdings with Pigs .. | 1,455 | 562 | 238 | 97 | 106 | 288 | 3 | 2,749 |
| Pig Numbers— | | | | | | | | |
| Boars | 1,137 | 465 | 147 | 28 | 50 | 144 | 1 | 1,972 |
| Breeding Sows | 7,610 | 2,953 | 1,041 | 156 | 264 | 1,103 | 21 | 13,148 |
| Other (a) | 41,787 | 17,140 | 5,202 | 625 | 985 | 4,729 | 66 | 70,534 |
| Total Pigs .. | 50,534 | 20,558 | 6,390 | 809 | 1,299 | 5,976 | 88 | 85,654 |

(a) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.

The concentration of pigs in the North West Statistical Division has been related to the fact that this is the main dairying area and that pig-raising and dairying are almost invariably carried on as closely associated activities, separated milk providing an important item of pigfeed. Farmers are now selling an increasing proportion of unseparated milk.

Pig Population

The pig population at 31 March each year is not, of itself, a very significant figure. It is possible for a sow to produce two litters within the one year and the offspring to number more than ten in each litter. It follows, therefore, that the real measure of activity in pig-raising is not so much the size of the pig herd at a particular point in time but rather the number of pigs slaughtered and the dressed carcass weight of the meat so produced; such information is given in the 'Livestock Products' section of this chapter.

The following table summarises pig descriptions and pig numbers:

Description of Pigs on Rural Holdings

| At 31 March | Boars | Breeding Sows | Other (a) | Total Pigs |
|----------------|-------|------------------|-----------|---------------|
| 1950 | 1,106 | 5,451 | 29,284 | 35,841 |
| 1955 | 1,608 | 9,065 | 47,709 | 58,382 |
| 1960 | 2,075 | 10,730 | 54,313 | 67,118 |
| 1963 | 2,112 | 11,447 | 56,443 | 70,002 |
| 1964 | 2,260 | 13,234 | 67,040 | 82,534 |
| 1965 | 2,327 | 14,578 | 75,116 | 92,021 |
| 1966 | 2,143 | 13,788 | 80,225 | 96,156 |
| 1967 | 1,972 | 13,148 | 70,534 | 85,654 |

(a) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.

In the previous table, the most significant item is the number of breeding sows. A sow can be mated at nine or ten months and the gestation period is a mere four months. The older technique was to allow the piglets to suckle for eight weeks before weaning but this could involve a 250 lb sow in the loss of 80 to 100 lbs live weight. A newer technique involves weaning within a fortnight so that the sow loses relatively little weight and can be re-mated within a fortnight or so after farrowing; the short gestation period and the planned synchronisation of farrowing with the maximum periods of food supply make possible the production of two litters within the one year.

LIVESTOCK PRODUCTS

Value of Production

The statistics in the following section refer, in the main, to quantities of livestock products. The associated values will be found under 'Value of Production' in Chapter 7.

Wool

In a report in 1836, the Colonial Secretary, John Montagu, described the early export trade in wool: 'It appears that the quantity of Wool imported into England from N.S.W. and Van Diemen's Land in 1810 was 167 lbs; in 1820, it amounted to 99,415 lbs; in 1825, to 323,995 lbs. From 1827, the returns for the two Colonies are separated.' The report then quotes the following exports of wool from the island colony:

Exports of Greasy Wool—Report of John Montagu
(lb)

| Year | Quantity | Year | Quantity | Year | Quantity |
|------------|----------|---------|-----------|---------|-----------|
| 1827 | 192,075 | 1830 .. | 993,979 | 1833 .. | 1,547,201 |
| 1828 | 528,846 | 1831 .. | 1,359,203 | 1834 .. | 1,601,280 |
| 1829 | 925,320 | 1832 .. | 951,131 | 1835 .. | 1,942,800 |

Prices in 1824 varied from two and a half cents to five cents per lb but, by 1836, they had increased to range from 15 to 25 cents. The progress of wool production in the remainder of the 19th century can be gathered from the following table (compiled from export figures, since production details were not collected for the whole period):

**Exports of Wool (a) (Overseas and Interstate)—Historical Summary
('000 lb)**

| Year | Quantity | Year | Quantity | Year | Quantity |
|-----------|-----------|---------|----------|---------|----------|
| 1835 .. . | (b) 2,429 | 1860 .. | 4,538 | 1885 .. | 5,774 |
| 1840 .. . | 3,637 | 1865 .. | 4,924 | 1890 .. | 8,984 |
| 1845 .. . | 3,662 | 1870 .. | 4,147 | 1895 .. | 7,223 |
| 1850 .. . | 5,855 | 1875 .. | 6,199 | 1900 .. | 6,754 |
| 1855 .. . | 5,858 | 1880 .. | 9,025 | 1905 .. | 9,566 |

(a) The figures relate basically to greasy wool but a small proportion of washed wool is included in the later years.

(b) An amendment of Montagu's original figure.

Unfortunately the above series cannot be carried through the period 1910-1922 due to lack of interstate trade figures, or through the period 1922-1951 because 'pure' greasy wool export figures (i.e. separated from scoured wools and tops and noils) are not available. Recent exports are:

**Exports of Wool, Greasy (Overseas and Interstate)
('000 lb)**

| Year | Quantity | Year | Quantity | Year | Quantity |
|------------|----------|------------|----------|------------|----------|
| 1950-51 .. | 12,008 | 1957-58 .. | 23,659 | 1962-63 .. | 26,278 |
| 1953-54 .. | 15,474 | 1958-59 .. | 25,167 | 1963-64 .. | 25,086 |
| 1954-55 .. | 17,663 | 1959-60 .. | 27,977 | 1964-65 .. | 30,329 |
| 1955-56 .. | 18,491 | 1960-61 .. | 24,403 | 1965-66 .. | 34,376 |
| 1956-57 .. | 20,707 | 1961-62 .. | 27,209 | 1966-67 .. | 35,802 |

It should be noted, however, that not all Tasmanian wool is exported in the grease, some being used for manufacturing purposes within the State; any locally processed wool exported would not be classified under greasy wool.

Wool Production

For statistical purposes, the total amount of wool produced in the State in any year does not just consist of the 'clip' (shorn wool) but also of the wool on skins, irrespective of whether it is actually removed by local fellmongers or still on the skins when they are exported. Production figures follow:

**Wool Production Since 1955-56
('000 lb)**

| Year | Wool as in the Grease | | | Year | Wool as in the Grease | | |
|---------|---|--|--------|---------|---|--|--------|
| | Shorn Wool (including Crutchings) | Fell- mongered and Dead Wool, and Wool on Skins Exported | Total | | Shorn Wool (including Crutchings) | Fell- mongered and Dead Wool, and Wool on Skins Exported | Total |
| 1955-56 | 20,790 | 2,632 | 23,422 | 1961-62 | 30,039 | 4,430 | 34,469 |
| 1956-57 | 25,705 | 2,974 | 28,679 | 1962-63 | 30,318 | 4,243 | 34,561 |
| 1957-58 | 26,110 | 3,065 | 29,175 | 1963-64 | 29,597 | 4,410 | 34,007 |
| 1958-59 | 28,892 | 3,742 | 32,634 | 1964-65 | 35,619 | 4,052 | 39,671 |
| 1959-60 | 29,091 | 4,509 | 33,600 | 1965-66 | 36,948 | 4,910 | 41,858 |
| 1960-61 | 27,881 | 3,989 | 31,870 | 1966-67 | 38,687 | 4,466 | 43,153 |

In the previous tables dealing with exports, a gap exists between 1905 and 1950-51 but production statistics are available as follows:

Total Wool Production—Historical Summary
('000 lb)

| Year | Production of Wool (as in the Grease) (a) | Year | Production of Wool (as in the Grease) (a) | Year | Production of Wool (as in the Grease) (a) |
|------------|--|---------|--|---------|--|
| 1905 .. | 11,753 | 1929-30 | 15,000 | 1954-55 | 23,797 |
| 1910 .. | 13,339 | 1934-35 | 14,035 | 1959-60 | 33,600 |
| 1914-15 .. | 12,049 | 1939-40 | 18,334 | 1964-65 | 39,671 |
| 1919-20 .. | 13,069 | 1944-45 | 16,324 | 1965-66 | 41,858 |
| 1924-25 .. | 12,483 | 1949-50 | 16,958 | 1966-67 | 43,153 |

(a) Total wool production, including shorn, dead and fellmongered wool and wool exported on skins; fellmongered converted to greasy wool equivalent weight.

'Wool as in the Grease'

The above term indicates that fellmongered wool included in previous total production figures has been attributed a weight as though it were *greasy* wool, although the original information is received in terms of the weight of *scoured* wool recovered by fellmongering. The logic of conversion is simple: if 100 lb of *greasy* yields 60 lb of *clean*, and 100 lb of *scoured* (fellmongered) yields 80 lb of *clean*, it follows that 100 lb of *scoured* (fellmongered) is equivalent to 133 lb of *greasy*. The factors in the example are only approximations of those in actual use, which are obtained from woolscourers (*greasy/clean* relativity) and fellmongers (*scoured/clean* relativity). Conversion of such wool to a greasy wool equivalent is necessary to put all the components of total production on a common basis.

Shorn Wool

The principal months for shearing in Tasmania are October, November and December. The following table gives shearing details for recent years:

Shearing and Shorn Wool Obtained

| Year Ended 31 March | Numbers Shorn | | | Shorn Wool Obtained | | | Average Yield | | |
|------------------------------|---------------|-------------|---------------|----------------------|------------------|-------------------|----------------------|---------------|------------|
| | Sheep | Lambs | Total | From Sheep (a) | From Lambs | Total | From Sheep (a) | From Lambs | Total |
| 1957 | '000 2,380 | '000 702 | '000 3,082 | '000 lb 23,976 | '000 lb 1,729 | '000 lb 25,705 | lb 10.07 | lb 2.46 | lb 8.34 |
| 1963 | 3,021 | 762 | 3,783 | 28,524 | 1,794 | 30,318 | 9.44 | 2.35 | 8.02 |
| 1964 | 3,049 | 819 | 3,868 | 27,862 | 1,735 | 29,597 | 9.14 | 2.12 | 7.65 |
| 1965 | 3,171 | 807 | 3,978 | 33,752 | 1,867 | 35,619 | 10.64 | 2.31 | 8.95 |
| 1966 | 3,339 | 979 | 4,318 | 34,524 | 2,424 | 36,948 | 10.34 | 2.48 | 8.56 |
| 1967 | 3,542 | 975 | 4,517 | 36,210 | 2,477 | 38,687 | 10.22 | 2.54 | 8.56 |

(a) Includes crutchings from sheep.

The next table shows the geographical distribution of shorn wool production:

Shearing and Shorn Wool Obtained (a) in Statistical Divisions, 1966-67

| Particulars | NW. | NE. | North Mid-land | Mid-land | SE. | Hobart and South-ern | Rest of State | Total |
|----------------------------|---------|---------|----------------|-----------|---------|----------------------|---------------|-----------|
| Number Shorn— | | | | | | | | |
| Sheep (no.) | 368,574 | 604,167 | 720,460 | 1,148,900 | 514,602 | 184,780 | 643 | 3,542,126 |
| Lambs (no.) | 130,932 | 158,884 | 199,125 | 320,795 | 129,318 | 35,907 | 20 | 974,981 |
| Shorn Wool Obtained | | | | | | | | |
| From Sheep ('000 lb) | 3,501 | 6,175 | 7,100 | 12,544 | 5,078 | 1,805 | 6 | 36,210 |
| From Lambs ('000 lb) | 475 | 493 | 473 | 680 | 262 | 94 | .. | 2,477 |
| Total ('000 lb) | 3,976 | 6,668 | 7,573 | 13,225 | 5,341 | 1,900 | 6 | 38,687 |
| Average Yield— | | | | | | | | |
| Sheep (lb) | 9.50 | 10.22 | 9.85 | 10.92 | 9.87 | 9.78 | 9.33 | 10.22 |
| Lambs (lb) | 3.63 | 3.10 | 2.37 | 2.12 | 2.03 | 2.62 | .. | 2.54 |

(a) Includes crutchings from sheep.

Wool Auctions

The bulk of Tasmanian shorn wool is marketed in Hobart and Launceston at auctions organised by the wool-selling brokers; in a typical year, there are three sales usually in November, February-March, and May. Some wool, however, is bought direct from growers by dealers and by local manufacturers of woollen goods. A small proportion of the State's wool is marketed at Victorian auctions, growers on King Island and Flinders Island tending to use this outlet because of sea transport factors.

The following table shows the average price of shorn greasy wool sold at Tasmanian auctions since World War II and also the value of all wool produced (the record price in 1950-51 can be related to the Korean War):

Tasmanian Average Auction Price and Total Value of Wool Produced

| Year | Average Auction Price per lb of Shorn Greasy Wool | Total Value of Wool Produced (b) | Year | Average Auction Price per lb of Shorn Greasy Wool | Total Value of Wool Produced (b) |
|-------------|---|----------------------------------|------------|---|----------------------------------|
| 1945-46 (a) | cents 15.52 | \$'000 2,262 | 1956-57 .. | cents 71.82 | \$'000 19,948 |
| 1946-47 .. | 23.00 | 3,880 | 1957-58 .. | 54.62 | 15,484 |
| 1947-48 .. | 37.23 | 5,714 | 1958-59 .. | 43.99 | 13,688 |
| 1948-49 .. | 46.92 | 7,530 | 1959-60 .. | 51.62 | 16,508 |
| 1949-50 .. | 59.65 | 9,530 | 1960-61 .. | 48.18 | 14,458 |
| 1950-51 .. | 150.05 | 24,226 | 1961-62 .. | 48.62 | 15,752 |
| 1951-52 .. | 57.59 | 11,218 | 1962-63 .. | 55.12 | 17,772 |
| 1952-53 .. | 67.42 | 12,758 | 1963-64 .. | 67.40 | 21,352 |
| 1953-54 .. | 69.09 | 13,310 | 1964-65 .. | 49.35 | 19,050 |
| 1954-55 .. | 63.75 | 14,464 | 1965-66 .. | 56.20 | 22,405 |
| 1955-56 .. | 54.60 | 12,380 | 1966-67 .. | 50.85 | 20,983 |

(a) In 1945-46, price is the average appraised price fixed under an agreement with the British Government (the agreement operating from 1939-40 to 1945-46).

(b) Includes value of shorn wool, fellmongered and dead wool and estimated value of wool exported on skins. Excludes profits of \$3,201,510 arising from the War-time Wool Disposals Plan and distributed to growers in the period 1949-50 to 1954-55.

The preceding price series refers only to shorn greasy wool sold at auction. In arriving at the value series for all wool produced, account is taken not only of auction prices but also of dealers' transactions, manufacturers' direct purchases from growers, fellmongering operations and exports of wool on skins.

Classification of Greasy Wool Sold at Auction

The next table shows, on a percentage basis, the proportion of wool sold at auction according to its predominating quality:

**Classification of Greasy Wool Sold at Tasmanian Auctions According to Quality
(Source: Australian Wool Bureau)**

| Predominating Quality | Proportion of Each Quality (Per Cent) | | | | | |
|---------------------------|---------------------------------------|---------|---------|---------|---------|---------|
| | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
| 70s and Finer | 5.3 | 5.9 | 6.4 | 4.8 | 5.2 | 4.5 |
| 64/70s | 2.2 | 3.3 | 2.8 | 2.7 | 2.3 | 2.4 |
| 64s | 3.2 | 4.8 | 4.9 | 3.3 | 3.2 | 3.1 |
| 64/60s | 0.5 | 0.6 | 0.8 | 0.6 | 0.7 | 0.6 |
| 60/64s | 6.7 | 8.3 | 9.7 | 7.0 | 8.7 | 6.6 |
| 60s and 60/58s | 17.2 | 17.5 | 19.1 | 15.6 | 17.3 | 15.3 |
| Total 60s and Finer | 35.2 | 40.4 | 43.7 | 34.0 | 37.4 | 32.5 |
| 58s | 24.3 | 25.9 | 25.0 | 30.5 | 29.4 | 31.7 |
| 56s | 22.0 | 18.4 | 16.9 | 20.6 | 19.8 | 20.4 |
| 50s | 11.9 | 8.9 | 8.0 | 8.8 | 8.1 | 9.3 |
| Below 50s | 5.1 | 4.0 | 3.3 | 4.3 | 3.3 | 3.9 |
| Oddments | 1.5 | 2.4 | 3.1 | 1.8 | 2.0 | 2.2 |
| Total All Wool | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

The above information is compiled by the Wool Statistical Service of the Australian Wool Board on the basis of catalogues of auction sales. 'Quality' (64s, 60s, 58s, etc.) is a measure of the fineness and texture of wool for spinning purposes. Broadly, it means the maximum number of hanks of yarn, each of 560 yards in length, which can be spun from one pound of combed wool. For instance, wool of 64s quality is of a fineness and texture which will produce 64 hanks, each of 560 yards, from one pound of tops (combed wool) of that particular wool.

Clean Wool Yield

The Tasmanian proportion of auctioned greasy wool classified as '60s and finer' in recent years has ranged from 32 to 44 per cent whereas the corresponding Australian proportion exceeds 70 per cent. In the matter of price, however, the Tasmanian auction average is usually a few cents above the Australian auction average. Tasmanian averages, with Australian equivalents in brackets, have been: 1963-64, 67.40c (58.08c); 1964-65, 49.35c (47.83c); 1965-66, 56.20c (50.08c); 1966-67, 50.85c (47.38c). This apparent contradiction is explained by taking into account a second factor, not included in the foregoing quality analysis, namely the yield of clean wool that can be obtained from greasy wool. In respect of this factor, Tasmanian wools tend to yield higher than Australian, both natural and artificial environmental factors operating to the advantage of the Tasmanian clip. Evidence of this peculiarity of Tasmanian wool is provided in the next table:

Average Clean Yield of Wool Clip, Tasmania and Other Australian States
 (Source: Wool Statistical Service)

| State of Sale (a) | Percentage of Clean Yield from Greasy Wool | | | | | |
|---------------------|--|---------|---------|---------|---------|---------|
| | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
| N.S.W. | 57.24 | 56.92 | 57.42 | 56.84 | 55.86 | 56.19 |
| Victoria | 60.63 | 58.99 | 59.63 | 59.21 | 58.98 | 59.72 |
| Queensland | 57.35 | 56.16 | 56.21 | 55.70 | 54.50 | 54.68 |
| S.A. | 54.02 | 53.12 | 63.98 | 53.10 | 53.07 | 54.00 |
| W.A. | 54.33 | 54.04 | 55.26 | 54.76 | 54.94 | 55.55 |
| Tasmania | 64.18 | 62.93 | 62.93 | 62.93 | 62.82 | 62.99 |
| Australia | 57.72 | 56.81 | 57.38 | 56.86 | 56.38 | 56.94 |

(a) Wool from the continental States is not sold at Tasmanian auctions so, for Tasmania, 'State of Sale' and 'State of Origin' are virtually the same except that some King and Flinders Islands' wool is sold at Victorian auctions.

As the above figures suggest, Tasmanian wool is freer from dust and vegetable fault than wool produced in the continental States.

While the proportion of fine wool (6os and finer) is comparatively low in the Tasmanian clip (since the State is historically and climatically a producer of crossbred wool), nevertheless growers offering '6os and finer' sell a very high proportion of superfine Merino wool at premium prices; this factor also operates to raise Tasmanian average auction prices above the Australian average.

Meat

Slaughtering

An obvious starting point in any description of meat production is the slaughtering of livestock for human consumption. To fully record the level of this activity, statistics should deal with operations in abattoirs, other slaughtering establishments and factories; slaughtering on farms also needs to be taken into account. Information on this complete basis did not become available before 1912, previous statistics relating only to slaughtering in Hobart and Launceston. The following table has been compiled to give an indication of slaughtering activity from 1912 to the present day:

**Stock Slaughtered (a) For Human Consumption—Historical Summary
 ('000)**

| Year | Cattle and Calves | Sheep and Lambs | Pigs | Year | Cattle and Calves | Sheep and Lambs | Pigs |
|---------------|-------------------|-----------------|------|------------|-------------------|-----------------|------|
| 1912 | 29 | 216 | 16 | 1954-55 .. | 75 | 643 | 79 |
| 1915 | 32 | 309 | 32 | 1959-60 .. | 145 | 1,166 | 115 |
| 1924-25 | 36 | 276 | 55 | 1961-62 .. | 135 | 1,160 | 120 |
| 1929-30 | 35 | 342 | 64 | 1962-63 .. | 158 | 1,095 | 115 |
| 1934-35 | 38 | 349 | 51 | 1963-64 .. | 176 | 1,127 | 124 |
| 1939-40 | 48 | 461 | 73 | 1964-65 .. | 174 | 987 | 135 |
| 1944-45 | 47 | 509 | 58 | 1965-66 .. | 154 | 1,164 | 146 |
| 1949-50 | 58 | 508 | 51 | 1966-67 .. | 170 | 1,159 | 149 |

(a) In all registered slaughtering establishments and on farms.

The next table, compiled on the same basis, analyses the items 'Cattle and Calves' and 'Sheep and Lambs':

**Stock Slaughtered (a) for Human Consumption
('000)**

| Year | Cattle and Calves | | | | Sheep and Lambs | | | Pigs |
|----------------|--------------------------------|------------------------|--------|-------|-----------------|-------|-------|------|
| | Bulls, Bullocks & Steers | Cows and Heifers | Calves | Total | Sheep | Lambs | Total | |
| 1956-57 .. | 38 | 38 | 25 | 102 | 280 | 404 | 684 | 82 |
| 1961-62 .. | 42 | 49 | 44 | 135 | 511 | 649 | 1,160 | 120 |
| 1962-63 .. | 50 | 62 | 46 | 158 | 466 | 629 | 1,095 | 115 |
| 1963-64 .. | 51 | 71 | 54 | 176 | 545 | 582 | 1,127 | 124 |
| 1964-65 .. | 53 | 71 | 50 | 174 | 425 | 562 | 987 | 135 |
| 1965-66 .. | 47 | 61 | 47 | 154 | 567 | 597 | 1,164 | 146 |
| 1966-67 (b) .. | 52 | 67 | 51 | 170 | 552 | 607 | 1,159 | 149 |

(a) In all registered slaughtering establishments and on farms.

(b) In 1966-67, the farm component of total livestock slaughtered was: cattle and calves, 732; sheep and lambs, 82,088; pigs, 1,722.

Meat Production

Slaughtering statistics in the previous two tables suggest that there has been a very marked increase in meat production in the last ten years but a more certain indicator is the actual carcass weight produced. The necessary weight data are collected from abattoirs, factories and licensed slaughterhouses (including 'country butchers'); in the case of livestock killed on farms, only the numbers are available and the resulting carcass weight has to be estimated. Statistics in terms of carcass weight cover the same field as the previous tables on slaughtering. The following shows details since 1924-25:

**Production of Meat—Historical Summary
('000 Tons—Carcass Weight)**

| Year | Beef and Veal | Mutton and Lamb | Pigmeat (a) | Total Meat | Year | Beef and Veal | Mutton and Lamb | Pigmeat (a) | Total Meat |
|------------|---------------------|-----------------------|----------------|---------------|---------|---------------------|-----------------------|----------------|---------------|
| | | | | | | | | | |
| 1924-25 .. | 8.1 | 5.0 | 2.5 | 15.6 | 1959-60 | 23.1 | 20.8 | 5.4 | 49.3 |
| 1929-30 .. | 8.0 | 6.0 | 2.8 | 16.8 | 1961-62 | 19.7 | 20.2 | 5.4 | 45.3 |
| 1934-35 .. | 8.1 | 6.0 | 2.3 | 16.4 | 1962-63 | 23.7 | 19.4 | 5.4 | 48.5 |
| 1939-40 .. | 10.6 | 7.7 | 3.5 | 21.8 | 1963-64 | 25.9 | 20.1 | 5.9 | 51.9 |
| 1944-45 .. | 9.2 | 9.2 | 3.0 | 21.4 | 1964-65 | 26.3 | 18.1 | 6.6 | 51.0 |
| 1949-50 .. | 12.3 | 8.9 | 2.6 | 23.8 | 1965-66 | 23.0 | 21.1 | 7.0 | 51.1 |
| 1954-55 .. | 13.7 | 11.9 | 3.4 | 29.0 | 1966-67 | 24.7 | 20.9 | 7.2 | 52.8 |

(a) Includes pork for manufacture into bacon and ham.

The next table, compiled on the same basis, analyses the items 'Beef and Veal' and 'Mutton and Lamb':

**Production of Meat
('000 Tons—Carcass Weight)**

| Year | Beef and Veal | | | Mutton and Lamb | | | Pigmeat (a) | Total Meat |
|------------|---------------|------|-------|-----------------|------|-------|----------------|---------------|
| | Beef | Veal | Total | Mutton | Lamb | Total | | |
| 1956-57 .. | 17.3 | 0.6 | 17.9 | 5.7 | 6.9 | 12.6 | 3.3 | 33.8 |
| 1961-62 .. | 18.8 | 0.9 | 19.7 | 10.1 | 10.1 | 20.2 | 5.4 | 45.3 |
| 1962-63 .. | 22.7 | 1.0 | 23.7 | 9.5 | 9.9 | 19.4 | 5.4 | 48.5 |
| 1963-64 .. | 24.6 | 1.3 | 25.9 | 10.9 | 9.2 | 20.1 | 5.9 | 51.9 |
| 1964-65 .. | 25.4 | 0.9 | 26.3 | 9.1 | 9.0 | 18.1 | 6.6 | 51.0 |
| 1965-66 .. | 22.1 | 0.9 | 23.0 | 11.5 | 9.6 | 21.1 | 7.0 | 51.1 |
| 1966-67 .. | 23.7 | 1.0 | 24.7 | 11.2 | 9.7 | 20.9 | 7.2 | 52.8 |

(a) Includes pork for manufacture into bacon and ham.

Export of Meat

As early as 1890, the Australian continental States were exporting frozen (and later, chilled) lamb, mutton, beef and veal to overseas destinations but the development of a similar meat export trade from Tasmania has been of comparatively recent origin. The first major step was in the field of fat lamb production when the 1931-32 season resulted in approximately 19,000 carcasses being exported overseas; unfortunately the birth of this activity coincided with the economic depression of the 1930s and the attempt to introduce a new line in 'mixed' farming was at first discouraged by low prices. World War II saw a revival of demand with over 100,000 carcasses exported overseas in 1943-44, and, after something of a decline in the early post-war period, exports climbed to 161,815 carcasses in 1959-60. Statistics of the number of carcasses exported in recent years are not available.

The other major development has been the growth of an export trade in beef and veal, the first shipments overseas commencing in 1954-55. The following are meat export figures expressed in tons. Unfortunately export weights cannot be directly compared with production weights since the former include boneless meat while the latter are in terms of carcass weight.

**Exports of Meat, 1966-67
(Tons)**

| Destination | Beef and Veal | Lamb | Mutton | Pork | Offal (Edible) | Bacon and Ham |
|------------------|---------------------|-------|--------|------|-------------------|---------------------|
| Interstate | 1,171 | 390 | 868 | 484 | .. | .. |
| Overseas | 5,336 | 1,062 | 2,770 | 33 | 679 | .. |
| Total .. | 6,507 | 1,452 | 3,638 | 517 | 679 | .. |

The importance of the overseas meat trade can be judged from Australian Meat Board estimates of the percentage of Tasmanian production actually exported. The trend in recent years is shown in the following table:

**Proportion of Tasmanian Meat Production Exported Overseas (a)
(Source: Australian Meat Board)
(Per Cent)**

| Meat | 1957-58 | 1958-59 | 1959-60 | 1960-61 | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Beef & Veal | 2.5 | 4.5 | 8.7 | 7.7 | 14.7 | 20.2 | 26.1 | 28.5 | 24.6 | 30.7 |
| Mutton | 1.8 | 1.4 | 6.0 | 3.2 | 10.9 | 17.5 | 27.8 | 19.8 | 39.2 | 42.6 |
| Lamb | 13.2 | 25.5 | 23.0 | 17.7 | 12.7 | 13.7 | 9.5 | 14.7 | 12.3 | 10.7 |

(a) The estimated percentages are derived by converting actual export weights to a carcass weight equivalent, thus giving a basis for comparison with production figures.

Meat Export Works

In 1966-67, there were nine licensed export slaughtering establishments in Tasmania. These were in Launceston (two), Hobart, Burnie, Devonport, Longford, King Island, Smithton and Sorell.

In broad terms, it is true to say that Tasmania has changed from a meat importing to a meat exporting State and this development can be related to the changed pattern of farming, the most significant indicator being the increase in the area of sown pasture and in the number of livestock carried.

Bacon and Ham

In the tables on meat production, the product from pig slaughtering has been referred to as 'pigmeat'. Approximately 24 per cent of pigmeat was converted to bacon and ham in 1966-67. The next table shows the production of bacon and ham since 1939-40 in summary form:

**Production of Bacon and Ham
(Tons)**

| Year | Bacon and Ham | | | Year | Bacon and Ham | | |
|---------|---------------|------|-------|---------|---------------|------|-----------|
| | Factory (a) | Farm | Total | | Factory (a) | Farm | Total |
| 1939-40 | 1,142 | 150 | 1,292 | 1962-63 | 1,165 | 17 | 1,182 |
| 1944-45 | 1,122 | 68 | 1,190 | 1963-64 | 1,151 | 15 | 1,166 |
| 1949-50 | 948 | 43 | 991 | 1964-65 | 1,158 | 13 | 1,171 |
| 1954-55 | 992 | 35 | 1,027 | 1965-66 | r 1,049 | 13 | 1,062 |
| 1959-60 | 1,120 | 24 | 1,144 | 1966-67 | 1,242 | (b) | (c) 1,242 |

(a) From 1959-60, includes small quantities made in establishments not classified as factories.

(b) Not available.

(c) Excludes farm production.

r Revised.

Previous reference has been made to the close association between pig-raising and dairying, many dairy holdings raising pigs as a subsidiary activity.

Dairy Products

In 1966-67, Tasmania's production of milk reached a record level of 91,567,000 gallons. The following table summarises milk production since World War II:

Milk Production and Milk Utilisation—Summary

| Year | Quantity of Milk Used For— | | | Total Milk Production | Dairy Cows at 31 March | Average Annual Production of Milk per Dairy Cow (b) |
|------------|----------------------------|----------------|--------------------|-----------------------|------------------------|---|
| | Factory Butter | Factory Cheese | Other Purposes (a) | | | |
| | '000 gal | '000 gal | '000 gal | '000 gal | no. | gal |
| 1944-45 .. | (c) 19,019 | (c) 2,629 | 7,080 | 28,728 | 75,435 | 382 |
| 1954-55 .. | 38,737 | 548 | 12,736 | 52,021 | 111,781 | 485 |
| 1959-60 .. | 54,597 | 735 | 14,894 | 70,226 | 126,183 | 554 |
| 1961-62 .. | 56,069 | 1,355 | 15,782 | 73,206 | 134,048 | 562 |
| 1962-63 .. | 60,877 | 1,440 | 16,201 | 78,518 | 141,255 | 570 |
| 1963-64 .. | 63,525 | 2,994 | 16,605 | 83,124 | (d) 140,425 | (d) 577 |
| 1964-65 .. | 64,621 | 5,265 | 17,457 | 87,343 | (d) 143,257 | (d) 589 |
| 1965-66 .. | 65,092 | 6,592 | 16,206 | 87,890 | (d) 148,452 | (d) 578 |
| 1966-67 .. | 66,520 | 8,411 | 16,636 | 91,567 | (d) 149,148 | (d) 591 |

(a) Milk used for 'other purposes' goes into the making of cream, ice cream, milk powder, concentrated milk, and other preserved milk products. It includes milk consumed as such. As from 1954-55, the milk equivalent of farm-made butter and cheese is also included.

(b) Milk yielding population is taken as mean of 'dairy cows—in milk and dry' at 31 March in year of production and in preceding year. The figures should therefore be treated as an index rather than as an actual average quantity of milk produced per dairy cow.

(c) Includes milk equivalent of farm-made butter and cheese.

(d) From 1963-64, the farm census recorded house cows (i.e. kept primarily for own milk supply) as a separate item excluded from the dairy cow population. It follows that 1963-64 and following figures are not strictly comparable with those of previous years.

Production of Butter and Cheese

The Australian dairying industry is capable of producing butter and cheese in quantities considerably greater than are required for domestic consumption, but competition from other countries in overseas markets has resulted in low prices which tend to discourage exports. The solution to this problem has been, in general terms, to pool the returns from both domestic sales and overseas sales and to distribute from the pool to each individual factory, irrespective of whether its products are sold at home or abroad; in effect, a process of price equalisation operates, the higher domestic price being used as an offset to the lower overseas price. The administrative body implementing this scheme is the Commonwealth Dairy Produce Equalisation Committee Ltd.

The industry also receives subsidies from the Commonwealth Government under the provisions of the various Dairy Industry Assistance Acts, the first of which was passed in 1942. Subsidies are distributed by the Commonwealth Dairy Produce Equalisation Committee through factories to milk producers by payments on butter and cheese manufactured. It follows, then, that in the marketing of butter and cheese, two factors are in operation: (i) price equalisation directly affecting the return to factories; (ii) subsidies directly affecting the return to milk producers.

It should be noted that the Commonwealth subsidy is applicable to factory butter and cheese but not to the same products manufactured on farms; the decline in farm production is probably related in part to this factor.

Although Tasmanian butter factories had been in operation before the turn of the century, it was not till 1911 that annual factory production exceeded 1,000 tons and even by 1938-39, factory butter output was only approximately 4,000 tons. The next table summarises total production of butter and cheese since 1939-40:

**Production of Butter and Cheese
(Tons)**

| Year | Butter | | | Cheese | | |
|------------|-------------|-------|--------|---------|------|-------|
| | Factory (a) | Farm | Total | Factory | Farm | Total |
| 1939-40 .. | 4,156 | 1,139 | 5,295 | 1,395 | 52 | 1,447 |
| 1944-45 .. | 3,643 | 448 | 4,091 | 1,122 | 59 | 1,181 |
| 1949-50 .. | 5,069 | 456 | 5,525 | 418 | 3 | 421 |
| 1954-55 .. | 8,334 | 236 | 8,570 | 274 | .. | 274 |
| 1959-60 .. | 11,744 | 144 | 11,888 | 328 | 38 | 366 |
| 1962-63 .. | 13,097 | 96 | 13,193 | 643 | 27 | 670 |
| 1963-64 .. | 13,667 | 96 | 13,763 | 1,337 | .. | 1,337 |
| 1964-65 .. | 13,903 | 96 | 13,999 | 2,350 | (b) | 2,350 |
| 1965-66 .. | 14,004 | (b) | 14,004 | 2,942 | (b) | 2,942 |
| 1966-67 .. | 14,311 | (b) | 14,311 | 3,762 | (b) | 3,762 |

(a) Includes butter equivalent of butter oil.

(b) Not available.

(c) Excludes farm production.

Farmers in the past traditionally 'separated' their milk, producing a cream concentrate for delivery to the butter factory; the residue, skim milk, was used to feed pigs. Some factories now are buying whole milk because they have diversified their output to include casein (a raw material for synthetic fibres, etc.) and dried skim milk. If this trend continues, then the long association between dairying and pig-raising may be upset in some degree.

Disposal of Butter

Tasmania is a butter exporting State as shown in the following table:

**Butter—Production, Exports and Local Sales
(Tons)**

| Year | Production (Farm and Factory) | Net Exports (a) | Local Sales (b) | Year | Production (Farm and Factory) | Net Exports (a) | Local Sales (b) |
|---------|-------------------------------------|-----------------------|--------------------|---------|-------------------------------------|-----------------------|--------------------|
| 1957-58 | 10,845 | 5,845 | 4,703 | 1962-63 | 13,193 | 8,642 | 4,521 |
| 1958-59 | 11,001 | 6,956 | 4,300 | 1963-64 | 13,763 | 8,227 | 4,885 |
| 1959-60 | 11,888 | 7,741 | 4,612 | 1964-65 | 13,999 | 10,231 | 4,527 |
| 1960-61 | 10,385 | 5,301 | 4,685 | 1965-66 | (c) 14,004 | r 9,295 | 4,804 |
| 1961-62 | 12,181 | 7,457 | 4,467 | 1966-67 | (c) 14,311 | 10,070 | 4,408 |

(a) Net and gross are identical except in 1960-61 when 35 tons were imported. Includes overseas and interstate.

(b) Source: Commonwealth Dairy Produce Equalisation Committee Ltd. Includes factory consumption of butter.

(c) Excludes farm production.

r Revised.

Bee-Farming

Originally bee-farming statistics were collected from all apiarists irrespective of the number of hives operated but, as from 1956-57, the collection was restricted to apiarists operating five or more hives. The next table summarises bee-keeping statistics:

Bee-Farming

| Year | Number of Apiarists | Number of Hives | Honey Produced | | Beeswax Produced | | |
|---------|---------------------------|-----------------------|----------------|-----------------------------------|------------------|-----------------------------------|------------|
| | | | Quantity | Average Per Productive Hive | Quantity | Average Per Productive Hive | |
| 1956-57 | .. | 183 | 5,422 | '000 lb 372.2 | lb 87.6 | '000 lb 4.8 | lb 1.13 |
| 1961-62 | .. | 164 | 6,651 | 278.6 | 57.1 | 3.8 | 0.78 |
| 1962-63 | .. | 153 | 7,156 | 547.3 | 103.3 | 6.2 | 1.16 |
| 1963-64 | .. | 160 | 7,261 | 632.1 | 111.9 | 6.3 | 1.11 |
| 1964-65 | .. | 202 | 8,373 | 715.3 | 114.5 | 10.1 | 1.61 |
| 1965-66 | .. | 229 | 9,305 | 630.0 | 94.0 | 8.0 | 1.20 |
| 1966-67 | .. | 223 | 9,668 | 385.5 | 59.0 | 6.5 | 1.00 |

A proportion of the larger commercial apiarists can be described as 'migratory', in the sense that they seasonally move their hives into the leatherwood areas of the West Coast; some hives are also moved into the orchard and small fruit areas at flowering time. The sources of honey for the Tasmanian market, and estimated honey consumption per head of population are shown in the following table:

Honey Consumption

| Average for Three Years Ended— | Production | Imports | Exports | Balance Available For Local Con- sumption (a) | Estimated Per Capita Consumption |
|--------------------------------------|----------------|----------------|----------------|---|---|
| 1956-57 | '000 lb 306 | '000 lb 282 | '000 lb 54 | '000 lb 533 | lb 1.67 |
| 1966-67 | '000 lb 577 | '000 lb 136 | '000 lb 168 | '000 lb 545 | lb 1.47 |

(a) Production plus imports less exports.

Poultry Farming*Introduction*

Until recent years, little statistical information has been available on the poultry industry in Tasmania, principally due to difficulties of collection and adequate coverage, but changes in legislation and other factors have now made it possible to compile more detailed data.

Poultry Numbers and Egg Production

'Back-yarders': Many householders have small flocks up to 20 birds (i.e. below the legal minimum involving registration and payment of fees) and surveys suggest that these 'back-yard' flocks may produce more than 50 per cent of all eggs. However, no accurate statistics are available for this 'back-yard' component and it is excluded from the tables that follow.

Commercial Producers: Producers with small flocks over the legal minimum size (more than 20 birds) may nevertheless keep them mainly to use, rather than to sell, the eggs and accordingly it was decided to exclude producers with less than 100 birds (of all types); the Bureau's 1966-67 census of the poultry industry established that producers in this excluded category numbered 213 but owned only three per cent of the total number of hens and laying pullets in commercial flocks in Tasmania.

The following table shows the number of poultry on the 196 poultry farms which reported a total of 100 or more birds of all types at 30 June 1967; also the eggs produced from hens and pullets during 1966-67:

Poultry Numbers and Egg Production, 1966-67
Commercial Producers Only (a)

| Statistical Division | Number of Poultry Farms (a) | Poultry Numbers at 30 June 1967 | | | | | Eggs Produced 1966-67 (b) |
|----------------------|-----------------------------|---------------------------------|------------------|------------|--------------|------------|---------------------------|
| | | '000 Hens and Laying Pullets | '000 Other Fowls | '000 Ducks | '000 Turkeys | '000 Geese | |
| Hobart | 49 | 41.1 | 21.6 | 0.2 | 0.3 | 0.0 | 641.8 |
| SE. | 22 | 22.8 | 15.4 | 0.1 | 2.2 | 0.0 | 276.8 |
| Southern | 21 | 17.6 | 132.1 | 0.0 | 5.2 | .. | 289.3 |
| N. Central | 7 | 3.5 | 3.0 | .. | .. | .. | 49.8 |
| NW. | 42 | 48.0 | 16.6 | 1.0 | 0.6 | 0.1 | 669.4 |
| NE. | 30 | 36.0 | 12.3 | 0.4 | .. | 0.1 | 644.1 |
| N. Midland | 20 | 13.7 | 3.6 | 0.1 | 0.3 | 0.0 | 290.0 |
| Midland | 5 | 7.0 | 3.0 | .. | 0.0 | 0.1 | 118.5 |
| Western | .. | .. | .. | .. | .. | .. | .. |
| Total | 196 | 189.6 | 207.7 | 1.9 | 8.6 | 0.4 | 2,979.6 |

(a) Includes only producers with a total of 100 or more birds of all kinds.

(b) Hen and pullet eggs only.

Poultry Slaughtering

Poultry slaughtering statistics were first collected in 1960-61 from all known establishments slaughtering 100 or more birds (of all types) annually; up to 1964-65, only numbers slaughtered were sought but from 1965-66, data were expanded to include both live and dressed weight. The next table shows the information available for a three-year period:

Number and Weight of Poultry Slaughtered (a)

| Year | Number Slaughtered ('000) | Live Weight | | Dressed Weight (b) | |
|---|---------------------------------|--------------------|--------------------------|--------------------|--------------------------|
| | | Total ('000 lb) | Average per Bird (lb) | Total ('000 lb) | Average per Bird (lb) |
| CHICKENS (i.e. BROILERS, FRYERS AND ROASTERS) | | | | | |
| 1964-65 | 506 | (c) | (c) | (c) | (c) |
| 1965-66 | 545 | 1,910 | 3.5 | 1,310 | 2.4 |
| 1966-67 | 753 | 2,691 | 3.6 | 1,969 | 2.6 |
| HENS AND STAGS | | | | | |
| 1964-65 | 127 | (c) | (c) | (c) | (c) |
| 1965-66 | 117 | 596 | 5.1 | 418 | 3.6 |
| 1966-67 | 129 | 623 | 4.8 | 440 | 3.4 |
| DUCKS AND DRAKES, TURKEYS, GEESE | | | | | |
| 1964-65 | 27 | (c) | (c) | (c) | (c) |
| 1965-66 | 21 | 182 | 8.7 | 139 | 6.6 |
| 1966-67 | 35 | 230 | 6.7 | 172 | 5.0 |

(a) Includes only establishments slaughtering 100 or more birds of all kinds.

(b) Includes weight of whole birds, pieces and giblets.

(c) Not available.

Size Structure of Slaughtering Industry

The following table classifies slaughtering establishments according to the number of birds slaughtered:

Number of Poultry Slaughtered According to Size of Establishment, 1966-67

| Size of Establishment (Number of Birds Slaughtered) (a) | Number of Slaughter- ers | Number of Birds Slaughtered | | | Total Birds Slaughtered | |
|---|-----------------------------------|---|----------------------|---|----------------------------|---------------------------|
| | | Chickens (including Broilers, Fryers and Roasters) | Hens and Stags | Ducks and Drakes, Turkeys and Geese | Number | Proportion of Total |
| | | '000 | '000 | '000 | '000 | per cent |
| 100- 500 .. | 48 | 4 | 6 | 1 | 11 | 1.2 |
| 501- 1,000 .. | 12 | 2 | 5 | 1 | 9 | 1.0 |
| 1,001- 1,500 .. | 7 | 2 | 4 | 2 | 9 | 1.0 |
| 1,501- 2,000 .. | 3 | 1 | 3 | 2 | 5 | 0.6 |
| 2,001- 3,000 .. | 6 | 6 | 9 | 2 | 17 | 1.8 |
| 3,001- 5,000 .. | 2 | 4 | 1 | 3 | 8 | 0.9 |
| 5,001-10,000 .. | 2 | 9 | 7 | .. | 16 | 1.7 |
| 10,001-20,000 .. | 3 | 31 | 13 | .. | 44 | 4.8 |
| Over 20,000 .. | 5 | 693 | 82 | 23 | 798 | 87.0 |
| Total .. | 88 | 753 | 129 | 35 | 917 | 100.0 |

(a) Classified according to number of birds of *all kinds* slaughtered.

The dressed carcass weight of birds slaughtered in the final group of establishments in the previous table (20,000 +) was 2,175,000 lb; for all establishments in the table, the total was 2,581,000 lb. In 1964-65, this particular size group accounted for 75.8 per cent of the number of birds slaughtered; in 1965-66, for 83.3 per cent; and in 1966-67, for 87.0 per cent.

A principal factor in creating a larger poultry slaughtering industry has been the marketing of quick-frozen birds through supermarkets, delicatessens, grocers, etc. Before freezing cabinets were in general use, poultry was mainly sold by butchers; refrigeration techniques have had the effect of multiplying the sales outlets. Mass production has also cut unit costs.

Chicken Hatching

In 1964-65, the first census of commercial chicken hatcheries (i.e. those establishments hatching chickens for sale) was conducted. As from 1965-66, the census was extended to all hatcheries which set 1,000 or more eggs during the year, including hatcheries producing chickens for their own use and not for sale. Details of eggs set and chickens hatched during 1965-66 and 1966-67 in such hatcheries are shown in the following table:

Eggs Set and Chickens Hatched

| Description | 1965-66 | | 1966-67 | |
|-----------------------------|---------------|--------------------------------|---------------|--------------------------------|
| | Number ('000) | Proportion of Total (per cent) | Number ('000) | Proportion of Total (per cent) |
| EGGS SET DURING YEAR | | | | |
| Meat Strains | 953 | 47.2 | 1,227 | 61.7 |
| Egg Strains | 1,067 | 52.8 | 761 | 38.3 |
| Total | 2,020 | 100.0 | 1,988 | 100.0 |

CHICKENS HATCHED (a) DURING YEAR

| | | | | |
|--|-------|-------|-------|-------|
| Intended to be Raised for— | | | | |
| Chicken Meat— | | | | |
| Meat Strains—Unsexed | 582 | 52.5 | 833 | 67.7 |
| Egg Strains (b)—Crossbred and other Cockerels | 107 | 9.7 | 61 | 4.9 |
| Egg Production— | | | | |
| Egg Strains (b)—Pullets | 372 | 33.6 | 263 | 21.4 |
| Breeding— | | | | |
| Meat Strains—Pullets | 15 | 1.3 | 14 | 1.1 |
| Cockerels | 2 | 0.2 | 2 | 0.2 |
| Egg Strains—Pullets | 24 | 2.2 | 42 | 3.4 |
| Cockerels | 6 | 0.5 | 16 | 1.3 |
| Total Chickens Hatched | 1,108 | 100.0 | 1,231 | 100.0 |

(a) Excluding chicks destroyed.

(b) Egg strain chicks reported as 'unsexed' have been allocated equally between chicks for chicken meat and chicks for egg production.

Size Structure of Hatching Establishments

Of the 36 hatcheries which set 1,000 or more eggs in 1966-67, six of them in total set 98.6 per cent of the meat strain eggs and 52.8 per cent of the egg strain eggs. The next table shows 1966-67 details of the number of eggs set according to the size of the hatcheries (the size classification depending on the number of eggs set):

Eggs Set According to Hatchery Size, 1966-67

| Size of Hatchery (Eggs Set) | Number of Hatcheries | Number of Eggs Set | | | | | |
|-----------------------------|----------------------|--------------------|---------------------|-------------|---------------------|-------------|---------------------|
| | | Meat Strains | | Egg Strains | | All Strains | |
| | | Number | Proportion of Total | Number | Proportion of Total | Number | Proportion of Total |
| 1,000- 9,999 .. | 16 | '000 | per cent | '000 | per cent | '000 | per cent |
| 10,000-19,999 .. | 7 | 7 | 0.6 | 45 | 5.9 | 52 | 2.6 |
| 20,000-49,999 .. | 7 | 10 | 0.8 | 85 | 11.2 | 95 | 4.8 |
| 50,000-99,999 .. | 3 | .. | .. | 229 | 30.1 | 229 | 11.5 |
| 100,000 and Over .. | 3 | 56 | 4.6 | 154 | 20.2 | 210 | 10.6 |
| | | 1,154 | 94.0 | 248 | 32.6 | 1,402 | 70.5 |
| Total .. | 36 | 1,227 | 100.0 | 761 | 100.0 | 1,988 | 100.0 |

RURAL POPULATION AND EMPLOYMENT

Employment on Rural Holdings

The following table gives details of males working on rural holdings as reported in the annual farm census at 31 March:

Male Farm Workers at 31 March

| Particulars | 1957 | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|--------|--------|--------|--------|--------|--------|
| Number of Rural Holdings, One Acre and Over | 11,538 | 10,974 | 10,949 | 10,979 | 10,777 | 10,641 |
| Males Working Permanently Full-time on Holdings— | | | | | | |
| Owners, Lessees or Share Farmers | 8,984 | 7,457 | 7,685 | 7,651 | 7,450 | 7,564 |
| Relatives of Owners, etc. over 14 years not Receiving Wages | 124 | 111 | 40 | 20 | 6 | 5 |
| Employees including Managers and Relatives Working for Wages or Salary | 4,457 | 4,053 | 4,038 | 4,075 | 4,073 | 4,101 |
| Total Permanent Males | 13,565 | 11,621 | 11,763 | 11,746 | 11,529 | 11,670 |
| Males Working Temporarily on Holdings on Wages or Contract | 5,004 | 5,139 | 5,733 | 5,993 | 5,715 | 4,773 |

Female Workers on Rural Holdings

Similar details of female employment are not available due to a difficulty of definition; the difficulty is to establish in what degree a woman performing ordinary domestic duties on a rural holding performs other tasks that justify her classification as a *permanent full-time worker*, in the same sense that the term is applied to a male.

Permanent Residents on Rural Holdings

Persons of all ages residing permanently on rural holdings (as defined for statistical purposes) numbered 23,852 males, 21,348 females, or 45,200 persons at 31 March 1967. The number in 1966 was 47,890 and in 1965, 49,190.

When those of school and lower ages, and women engaged in domestic duties, etc. have been excluded, the remaining rural population is not necessarily engaged full-time in farming. Some who are included in farm population devote much of their time to non-farming activities such as working in commercial or industrial enterprises, commercial fishing, sawmilling, etc. (which is only to be expected since a rural holding may be as small as one acre).

TECHNICAL ASPECTS OF RURAL INDUSTRY

Artificial Breeding

Introduction

Artificial breeding (by artificial insemination) is a technique applicable to animals, birds and bees. In Tasmania, its main application has been in cattle breeding where two major aims are being achieved: (i) the improvement of dairy herds by the use of semen from outstanding sires; (ii) the elimination of infertility diseases.

Herd Improvement

Herd improvement has always depended on selective breeding, but few primary producers can afford to own or even hire first-class stud bulls; artificial breeding techniques overcome this difficulty and give every farmer the chance to improve his herd at low cost. In 1966-67 for example, a Friesian bull named Calthorpe Prince Finale was reported as providing 4,819 inseminations in Tasmania; in total, 54 bulls provided 47,148 inseminations involving 31,332 cows. (The population of cows in milk and dry at 31 March 1967 was 149,148.) The semen was provided by 20 bulls of Tasmanian origin, 22 of Victorian origin and 12 of N.S.W. origin.

Infertility Diseases

Herd improvement relates to the quality of cattle, but even more basic, there is the problem of infertility and the diseases which cause it, principally by inducing abortion. Abortion in a cow means a direct financial loss to the farmer. The principal diseases are:

Brucellosis (Contagious Abortion): Fortunately this section can be written in the past tense—brucellosis was virtually eradicated from Tasmania by vigorous government action in 1965. The eradication campaign was based mainly on the test and slaughter of carrier cows, with Strain 19 vaccination used in limited areas.

Vibriosis: This bovine venereal disease is a cause of abortion but differs from brucellosis in that the infection will die out if the cows remain 'empty'. Since the bull *on the property* is the main agent in spreading the infection, artificial insemination is effective in completely eliminating the disease from a herd.

Trichomoniasis: The bull *on the property* is the main agent in propagation so artificial insemination is equally effective in eliminating this disease.

Infertility Research and Clinics

In 1956, the Department of Agriculture commenced an investigation of livestock reproductive diseases and of infertility. One finding was that 'empty' cows (those not conceiving) ranged from ten per cent in the Circular Head area to four per cent in northern and southern regions, and that brucellosis infected herds were less fertile than uninfected ones.

The vigorous measures taken to stamp out brucellosis were successful but *vibriosis* and *trichomoniasis* were also detected as causes of infertility, both

diseases being spread by traditional breeding methods. In this situation, artificial insemination was seen as the most effective method of producing herds free from either disease.

The Department set up infertility clinics for treating badly infected herds, the necessary semen for artificial insemination being provided from the Mount Pleasant laboratory stud. Herds serviced in this way recovered fertility and were then transferred to commercial insemination centres. Treatment has been so successful that the clinics have now been disbanded but the service is still made available from Hadspen Park when herds are found to be infected.

Government Control of Artificial Breeding

The first A.I. (artificial insemination) centre was set up by north-west farmers at Marrawah in 1955, semen being imported from other States.

In 1957, the Government established the Artificial Breeding Board consisting of the Chief Veterinary Officer as Chairman, the Chief Dairy Officer, two representatives of farmers' organizations and one representative of breed societies. When the Board first met in 1958, other farmers' groups which had begun to operate A.I. centres were having financial difficulties, whilst the pioneering Marrawah group had ceased to operate. Commercial A.I. centres were approved and licensed by the Board at Circular Head, Wynyard, Ulverstone, Devonport, Launceston and Ringarooma. In some cases, financial assistance was provided by the Board and by 1963 there were nine commercial centres operating, all controlled by committees of local farmers.

The *Artificial Breeding Act 1964* re-constituted the Board, adding a sixth member who was to be a financial expert, and giving the new body authority to buy and sell semen, to produce semen from its own bulls, to employ staff and to function in general as a corporate body marketing a commodity and providing a service. The Board then took over the semen production facilities of the Department of Agriculture and relieved local farmers of the responsibility for management of local commercial A.I. centres.

Artificial Breeding Statistics

Details follow of artificial breeding by commercial centres and in the treatment of infertility by Department of Agriculture infertility clinics.

Artificial Breeding: Commercial and Infertility Services (a)

| Year | Cows Served | | | Total Insemina- tions | Non-Return Rate for Commercial Service (c) (Per Cent) |
|---------|-----------------------|----------------------------|---------------|-----------------------------|---|
| | Commercial Service | Infertility Service (b) | Total Cows | | |
| 1958-59 | .. | 2,173 | 2,084 | 4,257 | n.a. |
| 1959-60 | .. | 5,239 | 3,910 | 9,149 | 15,003 |
| 1960-61 | .. | 8,144 | 7,457 | 15,601 | 24,378 |
| 1961-62 | .. | 10,008 | 9,527 | 19,535 | 30,674 |
| 1962-63 | .. | 10,879 | 11,422 | 22,301 | 34,077 |
| 1963-64 | .. | 14,427 | 9,765 | 24,192 | 38,029 |
| 1964-65 | .. | 17,430 | 6,454 | 23,884 | 36,847 |
| 1965-66 | .. | 27,152 | 2,010 | 29,162 | 46,106 |
| 1966-67 | .. | 29,034 | 2,298 | 31,332 | 47,148 |

(a) Compiled from annual reports, Artificial Breeding Board.

(b) Includes cows inseminated in Department of Agriculture's research programme.

(c) Percentage of cows not returning for further service within the 90-120 days following first service.

In 1966-67, 47,148 inseminations were made (including 410 as part of an Agricultural Department research programme). Eighty per cent of inseminations were from sires of Tasmanian origin and numbered 37,577; of this total, 22,729 came from Friesians, 9,609 from Jerseys, 4,585 from Herefords, 362 from Illawara Shorthorns and 292 from other breeds of bull. The number of herds treated at Board Centres was 1,610 (27,159 cows) and, at centres licensed by the Board, 102 (3,976 cows); a further 197 cows were treated in the Agricultural Department's research programme.

Farm Machinery on Rural Holdings

A previous table showing male farm workers over a ten-year period indicated a substantial fall in the rural work force. This decline must be associated, in some degree, with the increasing use of machinery on farms. In reviewing the complete field of farm mechanisation, it is not possible to make a ten-year comparison since some items have only become available in the required detail since 1959. The following table gives details of machinery on rural holdings at 31 March:

Machinery on Rural Holdings at 31 March

| Type of Machinery | 1959 | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|--------|--------|--------|--------|--------|--------|
| Cultivating Equipment— | | | | | | |
| Rotary Hoes— | | | | | | |
| Self Contained Power Unit Type | 1,134 | 1,127 | 1,218 | 1,270 | 1,199 | 1,221 |
| Tractor Mounted Type .. | 525 | 610 | 681 | 680 | 626 | 723 |
| Harvesting Equipment— | | | | | | |
| Headers, Stripers and Other Harvesters | 699 | 687 | 637 | 717 | 703 | 655 |
| Mowers— | | | | | | |
| Power Drive | 3,639 | 4,592 | 4,703 | 4,940 | 5,132 | 5,193 |
| Ground Drive | 2,000 | 1,324 | 1,294 | 1,176 | 994 | 823 |
| Hay Rakes— | | | | | | |
| Side Delivery | 1,650 | 2,121 | 2,198 | 2,336 | 2,386 | 2,438 |
| Buck | 923 | 1,005 | 1,034 | 1,017 | 1,022 | 988 |
| Dump | 1,448 | 1,161 | 1,147 | 1,060 | 971 | 861 |
| Forage Harvesters | 69 | 216 | 231 | 241 | 269 | 309 |
| Pick-up Balers | 1,025 | 1,405 | 1,494 | 1,599 | 1,661 | 1,757 |
| Potato Diggers | 1,139 | 995 | 1,002 | 951 | 950 | 932 |
| Seeding and Planting Equipment— | | | | | | |
| Grain Drills (All Types) | 3,871 | 3,884 | 4,002 | 4,036 | 4,036 | 4,011 |
| Fertiliser Distributors and Broadcasters— | | | | | | |
| Rotary | 2,989 | 3,338 | 3,455 | 3,657 | 3,841 | 3,909 |
| Direct Drop | 1,778 | 1,917 | 1,970 | 1,978 | 1,925 | 1,896 |
| Potato Planters | (a) | 214 | 204 | 215 | 239 | 250 |
| Other Equipment— | | | | | | |
| Shearing Machines (No. of Stands) | 3,798 | 4,249 | 4,371 | 4,493 | 4,652 | 4,559 |
| Milking Machines (No. of Stands) | 10,721 | 12,701 | 13,382 | 13,806 | 15,894 | 16,414 |
| Hammer Mills | 225 | 343 | 415 | 440 | 512 | 570 |
| Power Driven Spray Plants— | | | | | | |
| Fruit | 1,273 | 1,179 | 1,214 | 1,224 | 1,195 | |
| Vegetable and Pasture | 744 | 1,283 | 1,528 | 1,678 | 1,870 | 2,906 |
| Power Driven Irrigation Plants | 862 | 1,330 | 1,865 | 1,836 | 2,034 | 2,148 |

(a) Not available.

The next table deals with tractors and gives a ten-year comparison:

Number of Tractors on Rural Holdings at 31 March

| Type of Tractor | 1957 | 1963 | 1964 | 1965 | 1966 | 1967 |
|-----------------|-------|--------|--------|--------|--------|--------|
| Wheeled | 6,967 | 9,605 | 9,831 | 10,250 | 10,856 | 11,042 |
| Crawler | 843 | 1,022 | 1,073 | 1,129 | 1,091 | 1,129 |
| Total | 7,810 | 10,627 | 10,904 | 11,379 | 11,947 | 12,171 |

Every three years details are obtained from all farmers regarding characteristics of tractors used. A summary of this information for wheeled tractors is given in the next table (1966 being the most recent year for the detailed collection):

Classification of Wheeled Tractors on Rural Holdings at 31 March 1966

| Horsepower (a) | Tractors Using as Fuel | | | Tractors Classified According to Age | | | | |
|----------------|------------------------|-----------|--------|--------------------------------------|----------------------|-----------------------|-------------------|--------|
| | Diesel Oil | Kero-sene | Petrol | Under 5 Years | 5 and Under 10 Years | 10 and Under 15 Years | 15 Years and Over | Total |
| Over | Up To | | | | | | | |
| .. | 10 | 2 | .. | 17 | 11 | 3 | 1 | 19 |
| 10 | .. 20 | 47 | 158 | 85 | 15 | 33 | 51 | 191 |
| 20 | .. 30 | 1,000 | 864 | 2,023 | 119 | 840 | 2,100 | 828 |
| 30 | .. 40 | 3,586 | 701 | 530 | 1,937 | 1,834 | 677 | 3,887 |
| 40 | .. 55 | 1,305 | 111 | 10 | 842 | 303 | 186 | 369 |
| 55 | .. 100 | 411 | 5 | .. | 354 | 52 | 8 | 95 |
| 100 | .. | 1 | .. | .. | 1 | .. | .. | 2 |
| | Total .. | 6,352 | 1,839 | 2,665 | 3,279 | 3,065 | 3,023 | 1,489 |
| | | | | | | | | 10,856 |

(a) Maximum belt horsepower.

Artificial Fertilisers

The trend over the last ten years has been to greater use of artificial fertilisers, not only in total, but also in average application per acre as illustrated in the next table:

Artificial Fertilisers Used

| Particulars | Unit | 1956-57 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--------------------------|------------|---------|---------|---------|---------|---------|
| Vegetables (a)— | | | | | | |
| Area Fertilised | '000 acres | 46 | 25 | 26 | 30 | 29 |
| Fertiliser Used—Total .. | '000 cwt | 177 | 132 | 142 | 192 | 180 |
| Per Acre | cwt | 3.82 | 5.26 | 5.49 | 6.35 | 6.28 |
| Fruit— | | | | | | |
| Area Fertilised | '000 acres | 20 | 21 | 21 | 21 | 21 |
| Fertiliser Used—Total .. | '000 cwt | 112 | 149 | 142 | 154 | 147 |
| Per Acre | cwt | 5.50 | 7.08 | 6.89 | 7.31 | 7.02 |
| Pastures— | | | | | | |
| Area Fertilised | '000 acres | 897 | 1,291 | 1,380 | 1,475 | 1,588 |
| Fertiliser Used—Total .. | '000 cwt | 1,367 | 2,165 | 2,235 | 2,545 | 2,687 |
| Per Acre | cwt | 1.52 | 1.68 | 1.62 | 1.72 | 1.69 |
| Other Crops— | | | | | | |
| Area Fertilised | '000 acres | 68 | 189 | 172 | 184 | 182 |
| Fertiliser Used—Total .. | '000 cwt | 136 | 384 | 333 | 388 | 380 |
| Per Acre | cwt | 1.99 | 2.04 | 1.94 | 2.11 | 2.09 |
| Total Usage— | | | | | | |
| Area Fertilised | '000 acres | 1,032 | 1,526 | 1,598 | 1,711 | 1,819 |
| Fertiliser Used | '000 cwt | 1,792 | 2,830 | 2,853 | 3,278 | 3,395 |

(a) From 1963-64, figures refer to vegetables for human consumption only.

In the twenty-year period ending in 1966-67, artificial fertiliser usage has risen rapidly, the area treated increasing by 286 per cent and the quantity applied by 358 per cent. Three factors mainly account for these movements: (i) the marked increase in the area of treated pasture; (ii) the trend to more intensive application per acre generally; (iii) the encouragement provided by the Commonwealth Government through fertiliser subsidies.

Types of Artificial Fertiliser

The basic types of artificial fertiliser employed are phosphatic (e.g. super phosphate), nitrogenous (e.g. sulphate of ammonia) and potassic (e.g. muriate of potash), their essential chemical contribution to plant nutrition being phosphoric acid (P_2O_5), nitrogen (N) and potash (K_2O). Superphosphate, either 'straight' or with additives, is most widely used in Tasmania, the additives consisting of trace elements such as cobalt, molybdenum, copper, boron, zinc, etc. In addition to the basic fertiliser types, the following combinations are also in use: mixed nitrogenous and phosphatic; mixed nitrogenous and potassic; mixed phosphatic and potassic; mixed nitrogenous, phosphatic and potassic. Due to the numerous combinations on the market, it has not been possible to obtain any detailed analysis of the fertiliser types applied to various purposes.

One important cause of soil infertility is the absence of certain trace elements which occur in healthy soil in very small quantities. The remedy is soil analysis, detection of the deficiency and application of fertiliser containing the required trace element, or combination of elements.

Aerial Agriculture

The term 'aerial agriculture' is applied to the use of aircraft for top-dressing and seeding, for spraying and dusting of crops and pastures, and for pest and vermin destruction. In Tasmania, the obvious limitations to more extensive development of this technique are small holdings and the nature of the terrain. The area treated from aircraft in the year ended 31 March 1967 (in '000 acres) was as follows: N.S.W., 7,756; Victoria, 2,424; S.A., 1,276; W.A., 2,301; Australia, 15,200 (because of the limited number of operators, details for Queensland and Tasmania are regarded as confidential). Even though the area treated in Tasmania is relatively small compared with that in the continental States, there has nevertheless been rapid development of this technique, particularly since 1964-65.

The following table gives details:

Aerial Agriculture (a)

| Year Ended 31 March | Area Treated | | | Materials Used | | Aircraft Utilisation (Flying Time) |
|------------------------|----------------------------------|------------|------------|---------------------|---------|---|
| | Top- dressed and Seeded | Sprayed | Total | Super- phosphate | Seed | |
| | '000 acres | '000 acres | '000 acres | tons | '000 lb | hours |
| 1963 | | 86 | .. | 86 | 5,695 | 4 |
| 1964 | | 69 | 19 | 88 | 5,805 | 31 |
| 1965 | | 215 | 1 | 215 | 17,057 | 40 |
| 1966 | | 193 | 24 | 217 | 13,628 | .. |
| 1967 | | (b) | 19 | (b) | 22,009 | (b) |

(a) Source until January 1967, Department of Civil Aviation; collection then continued by Bureau of Census and Statistics.

(b) Not available for publication.

Area of Land Irrigated

Comparison

Both N.S.W. and Victoria have over one million acres of irrigated land; by way of contrast, the Tasmanian total was only 66,243 acres in 1967-68. Owing to the generally more reliable rainfall in Tasmania, scarcity of water is not such a problem as it is in the continental States, though not all streams are by any means permanently flowing. The drought conditions experienced in some areas of Tasmania in the last two or three years have given a warning that even here complete reliance on regular rainfall may lead to heavy individual loss.

Farm Storages

Until a few years ago, Tasmanian irrigated areas were negligible except for long-established hop fields, but there is a rapidly expanding use of spray irrigation on orchards and pastures and to some extent on potatoes and other vegetable crops. Until recently, there was an almost complete dependence on natural stream flows, but the need for some regulating storages became apparent. Farmers have been constructing storages of their own, and the extension of this practice is seen as the logical solution in most areas, as valleys are narrow and steep sided. Single large reservoirs cannot economically serve large areas of suitable land, as nearly every valley is separated from others by pronounced hills, prohibiting the construction of cross-country channels.

Water Resources

It is true that the State has very large volumes of water stored in the central lakes and behind the dams of the State Hydro-Electric Commission but no large irrigation scheme based on power-house discharge has yet been initiated. Unlike the Snowy River scheme, Tasmanian hydro-electric construction has been undertaken with production of power as the primary goal although the resulting storages of water at high level could obviously be the logical starting point for extensive irrigation schemes if the decision were taken to develop them.

The Derwent affords an example of the benefits of hydro-electric power development in regulating the flow of a river. Prior to the installation of the Waddamana Power Station in 1916, when the river was completely unregulated, the summer minimum flow was known to have fallen as low as 200 cusecs, and it is estimated that the lowest ever was possibly 120 cusecs. Today, regulated by the highland storages, the minimum summer flow in normal operating conditions is about 1,400 cusecs and the average summer flow is considerably above this figure. In actual fact, the long term average flow at present being maintained in the River Derwent at its lower levels is about 4,500 cusecs (i.e. 2,250 million gallons per day or approximately nine times the average amount consumed daily from the water supply system serving Sydney and Wollongong). A flow of 4,500 cusecs, assuming no evaporation, would fill Australia's largest storage—the Eucumbene—in just over a year, the Eildon in 10 months, the Hume in nine months, the Menindee Lakes in seven months, or the Warragamba in six months. The Derwent is an obvious example of a river from which large quantities of water can now be obtained without the creation of storages and similar opportunities exist on the South Esk, Huon, Lake, Mersey and Forth Rivers. The State's biggest rivers, the Gordon and Pieman, flow out to the West Coast and no diversion to the eastern half of the watersheds has been planned, if indeed such a scheme were practicable.

There are no State irrigation projects at present, but the State Rivers and Water Supply Commission is investigating the possibility of establishing a storage for the Coal Valley and investigations have also been made in the

Jordan Valley and in many other areas. One scheme still under scrutiny is for irrigation in the Cressy district, the water source being Brumbys Creek which is fed by discharge from the Poatina power station; in this case, the assistance of the Commonwealth Government is being sought. The Commission advises farmers on dam construction and estimates that farm dams are currently being constructed at a rate of about 350 per year.

To summarise, it can be said that irrigation still plays only a minor role in Tasmanian farming generally but the basic resource—water—is available in plenty if ever the decision is taken to exploit the possibilities more fully.

Irrigation Methods

A small proportion of the area under irrigation is watered by gravitational systems and the remainder comprises areas devoted to pasture, fruit and vegetables and served by municipal water supplies or private spray systems.

Area Irrigated

Details of the area of crops and pastures irrigated in Tasmania are shown in the following table:

**Area of Land Irrigated
(Acres)**

| Year | Area of Irrigated Land Used For— | | | | | | Total |
|---------|----------------------------------|--------------|-------|---------|----------|-------------|--------|
| | Hops | Green Fodder | Fruit | Pasture | Potatoes | Other Crops | |
| 1958-59 | 1,292 | 782 | 1,737 | 7,502 | 471 | 1,647 | 13,431 |
| 1959-60 | 1,311 | 1,286 | 2,350 | 11,339 | 467 | 1,355 | 18,108 |
| 1960-61 | 1,364 | 1,177 | 3,311 | 10,369 | 863 | 1,850 | 18,934 |
| 1961-62 | 1,447 | 1,589 | 3,930 | 11,713 | 1,374 | 3,136 | 23,189 |
| 1962-63 | 1,465 | 2,043 | 4,446 | 11,435 | 1,688 | 3,208 | 24,285 |
| 1963-64 | 1,463 | 2,703 | 5,933 | 15,693 | 1,984 | 5,794 | 33,570 |
| 1964-65 | 1,553 | 2,583 | 5,955 | 14,194 | 2,246 | 7,791 | 34,322 |
| 1965-66 | 1,524 | 3,948 | 7,241 | 17,651 | 4,216 | 10,616 | 45,196 |
| 1966-67 | 1,495 | 5,433 | 8,287 | 18,111 | 4,100 | 9,799 | 47,225 |

The next table highlights the growing importance of irrigation in the potato growing industry:

Potatoes Irrigated

| Particulars | 1961-62 | 1963-64 | 1965-66 | 1966-67 |
|---------------------------------------|---------|---------|---------|---------|
| Total Area of Potatoes Sown ..(acres) | 11,129 | 10,806 | 11,993 | 10,278 |
| Area Irrigated— | | | | |
| Total .. .. ..(acres) | 1,374 | 1,984 | 4,216 | 4,100 |
| As Proportion of Area Sown (per cent) | 12.3 | 18.4 | 35.2 | 39.9 |

TASMANIAN DEPARTMENT OF AGRICULTURE

Aims and Structure

The original Department of Agriculture created in the late 1880s had very narrow aims, principally administering plant and animal regulations, and advising the Government on all phases of agriculture. In 1927, however, the State Government decided to re-organise the Department, a new aim having been suggested by the Commonwealth Development and Migration Commission which most strongly urged the spread of scientific knowledge among primary producers.

The functions of the modern Department are: (i) active research and investigation into agricultural problems; (ii) wide dissemination of technical information to help farmers; (iii) regulatory and administrative action as required under various State Acts.

To carry out these functions, the Department headed by the Director is divided into six *divisions* (agronomy, horticultural, dairy, plant pathology, entomology and fisheries), three *services* (extension, animal health and administrative) and three *sections* (wool, piggery and poultry). The Department has its own laboratories, research stations and experimental farms.

Research and Investigations

Introduction

The fundamental work, undertaken in the State's research farms and laboratories, is aimed at increased production through improvements in plant and animal performance.

At present, there are three research stations and one laboratory associated with agronomical research, two research stations and a laboratory involved in horticultural research, one bacteriological laboratory devoted to dairy research and bacterial investigations, and laboratories which deal with entomological and pathological investigations. Livestock studies are conducted on two of the stations associated with agronomical research.

The following lists the stations, farms, etc. and summarises the principal work each performs:

Cressy Research Farm

Production of cereal, pulse and pasture species foundation seed; livestock research relating to poultry, sheep and pigs.

Elliott Research Farm

Production of foundation seed (oats, barley, field peas and potatoes; also pasture and multi-crop forage varieties); research relating to sheep.

Tewkesbury Potato Station

Improvement of foundation seed supplies; research into maximising potato yields.

Huon Horticultural Research Station

Research into pome fruits.

Forthside Vegetable Research Farm

Production of foundation seed; research into maximising vegetable yields.

New Town Experimental Station

Storage of apples and pears; hop seedlings research, soil treatment.

Launceston Laboratories

The main centre is at Mt Pleasant and there is also a bacteriological laboratory. The chief fields of investigation are in agronomy, horticulture, bacteriology, entomology and pathology.

*Primary Industry—Rural
Agricultural Extension*

Aim

The Department recognises that research findings must be made known to the man on the land and the machinery for doing this is called extension; no matter what progress is made in research, etc., the whole effort will be wasted unless backed up by an effective extension service. Accordingly, advisory officers are employed to keep the farmer informed on all aspects of modern cultural and management practices, as well as providing guidance on financial problems.

Extension Service Staff

The State is divided into three regions (north-west, north and south) and these are further sub-divided into districts, 15 in all; the regions are supervised by senior agricultural officers, the districts by district agricultural officers whilst general control is exercised by the chief extension officer. Most districts, in addition, have agricultural officers assisting the district officers.

There are also specialist officers engaged on extension work in horticulture, poultry, sheep and wool, pigs, animal health and dairying. They are directly responsible to the heads of the *divisions, services or sections* under which their particular activity happens to be included.

Extension Methods

Personal Contact: Contact with interested farmers is achieved through farm visits, field days, demonstrations, meetings, drive-abouts and short courses.

Mass Media: The Department's publications include: (i) the Tasmanian Journal of Agriculture, a quarterly magazine on agricultural subjects; (ii) special bulletins, pamphlets and brochures for distribution at field days. Departmental officers co-operate with specialists in the Australian Broadcasting Commission in presenting radio and television programmes such as the Country Hour and Landline; in the north, they speak regularly on commercial radio. The Department of Film Production is assisting in making films for showing on commercial television.

Special Services: The State supervisor of the Rural Youth Organisation and his assistant are both extension officers of the Agricultural Department which assumes responsibility for the agricultural content of all club programmes.

Agriculture in Schools: Most agricultural teaching in the State's high and area schools is done by agricultural officers.

Research-Extension Liaison: The extension service section handling departmental publications and films is also responsible for liaison with the Department's research services; it supplies agricultural officers, for use in the field, with two important aids: (i) an Extension Service Handbook; (ii) a Field Pocket Book. The first is a loose-leaf publication giving a very quick reference to the latest recommendations and findings of the various *divisions, services and sections*; the second is a smaller publication giving basic information, e.g. spray formulae, etc. Keeping the agricultural officers informed of the latest developments and research findings is an obvious but very important stage in communication with the farmer.

Chapter 7

PRIMARY INDUSTRY—NON-RURAL

FORESTRY

Introduction

Writing in 1891, the Government Statistician, R. M. Johnston, painted a glowing picture of Tasmania as an island covered with 'an almost continuous virgin forest', and drew this conclusion: 'With such a wealth of forest trees, Tasmania's sources of timber supply must be infinitely great, and, in the near future, must be of great industrial value.'

It is doubtful whether this picture of an island almost completely forested was true, even when the early settlers arrived, since some of them established holdings on open savanna-like country which owed its origin to a long history of firing by the Tasmanian natives. Far away in the west and south were extensive areas of sedgeland and button-grass plain while the upper mountain country took on the appearance of moors. In the one hundred and sixty years or so since the first settlement, land clearing, timber exploitation and fires have left their mark and the Forestry Commission estimated the total forest area as 7,778,000 acres at 30 June 1967, (i.e. approximately 46 per cent of the State's total area). By Australian standards, however, a State with 46 per cent of its area under forest is uniquely endowed.

Trees of the Tasmanian Forests

Forest Types

There are two basic types of forest in Tasmania, namely rain forest and sclerophyll forest, and their respective occurrence may be correlated with intensity of rainfall. The rain forest is principally located in the western half and also in the north-east highlands, the sclerophyll forest predominating elsewhere. In the Tasmanian situation, the sclerophyll forest can be regarded as eucalypt forest with very little loss of accuracy, so dominant are the eucalypts. The temperate rain forest is characterised by the dominance of *Nothofagus cunninghamii* (myrtle), *Eucryphia lucida* (leatherwood), *Atherosperma moschatum* (sassafras), *Acacia melanoxylon* (blackwood) and other trees which appear with changed soil conditions. The exclusive appearance of myrtle types or of eucalypts is determined by rainfall factors. In areas with annual falls above 60 inches, the myrtle appears to exclude the eucalypts, while in areas averaging 45 to 60 inches myrtle is found as understorey cover to eucalypt growth. Since the eucalypts are the most important Tasmanian source of timber, in general it can be said that the better quality forests grow in regions between the 30-inch and 60-inch isohyets. The most valuable eucalypts in such forests belong to the ash group and include *delegatensis* (Alpine ash), *obliqua* (stringybark), and *regnans* (mountain ash). In areas with falls of less than 30 inches, the forests have *globulus* (blue gum), *linearis* and *pauciflora* (peppermint), *ovata* (swamp gum), *viminalis* (white gum) and also *obliqua* (stringybark).

Hardwoods and Softwoods

Tasmanian forests are now almost exclusively cut for hardwood, the slow growing indigenous softwoods having been exploited in the past without effective regeneration; they were never very plentiful. The principal varieties

are *Athrotaxis selaginoides* (King Billy pine), *Dacrydium franklinii* (Huon pine) and *Phyllocladus aspleniifolius* (celery-top pine). The scarcity of indigenous softwoods is being met, in part, by the creation of exotic plantations, the principal variety grown being *Pinus radiata*, but at 30 June 1967 the softwood plantations (38,000 acres) accounted for only 0.5 per cent of the State's total forested area.

Demand for Forestry Products

Timber was always in demand as a fuel, and as a building and construction material from the days of the original settlement. The possibility of using eucalypts for paper manufacture was investigated in the nineteenth century by Sir Ferdinand von Mueller, the celebrated botanist, and he concluded that eucalypts provided a bark which was suitable for the manufacture of paper. In actual fact, when paper making was begun at Burnie in 1938 the process involved discarding the bark and converting whole de-barked billets to pulp. Shortly afterwards, the only newsprint mill in Australia was established at Boyer on the Derwent and more recently, a pulp mill has begun operations at Geeveston in the south. Another paper mill is being built at Wesley Vale in the north. Further utilisation of forestry products has been introduced by factories producing plywood, hardboard, particle board, etc., while growing demand for woodchips for processing overseas has led to the creation of companies with plans to export this product.

Forest Area

In the next table showing details of Tasmania's total forest area, a distinction is made between *exploitable* and *potentially exploitable*. The first term needs no definition but the second describes forest too immature to warrant exploitation at present, or forest of higher quality where transport costs to the nearest market are prohibitive in present circumstances.

Obviously the distinction will change from time to time; for example the establishment of the paper pulp industry at Geeveston created a local market near forest areas once classed as only *potentially exploitable*, and created a demand for trees of lower grade than those used in sawmilling.

Classification of Forest Area (Gross) at 30 June 1967 (a)
('000 Acres)

| Forest Area | Located on— | | Total |
|---|-------------|--------------|-------|
| | Crown Land | Private Land | |
| Exploitable—Hardwood | 2,653 | 1,125 | 3,778 |
| Softwood | 7 | 4 | 10 |
| Total | 2,660 | 1,128 | 3,788 |
| Potentially Exploitable—Hardwood | 2,077 | 424 | 2,501 |
| Softwood | 20 | 8 | 28 |
| Total | 2,097 | 432 | 2,528 |
| Other Areas Classified as Forest | 944 | 517 | 1,461 |
| Estimated Total Forest Area | 5,701 | 2,077 | 7,778 |

(a) Includes 38,000 acres of softwood plantations, and 1,000 acres of hardwood plantations at 30 June 1967.

The previous table includes all forests and plantations, whether easily accessible or not, and also the forested areas in scenic reserves. The next table gives details of that part of the total area which is under reservation ('reservation' in this context means land either used or to be used exclusively for forestry purposes; it includes also the forested areas of scenic reserves):

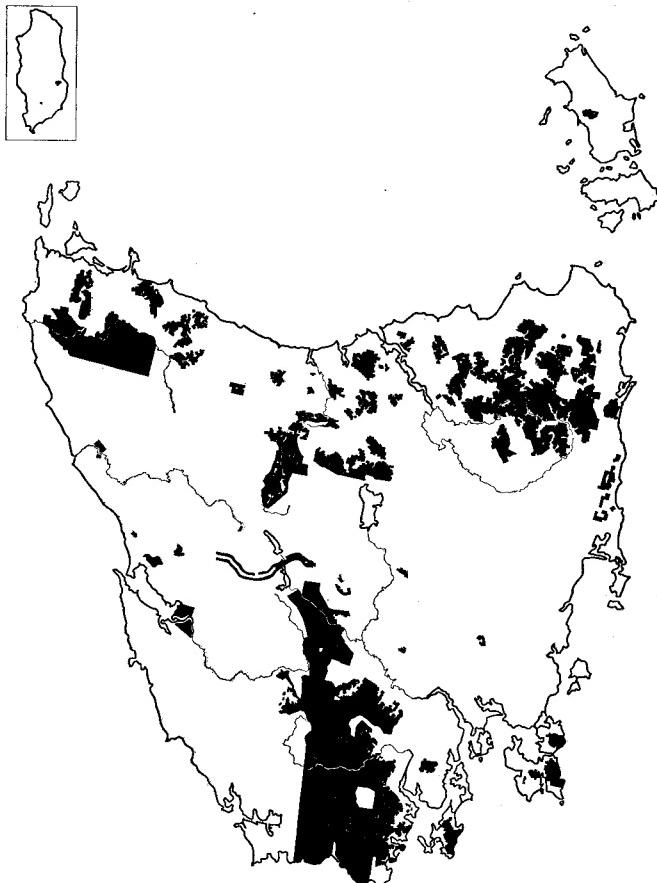
**Forest Area (Gross) Under Reservation at 30 June 1967
('000 Acres)**

| Particulars | Pulpwood Concessions | Exclusive Forestry Permits | Scenic Reserves (a) | Other | Total |
|-------------------------------|----------------------|----------------------------|---------------------|-------|-------|
| State Forests (b) .. | 594 | 293 | .. | 1,633 | 2,520 |
| Timber Reserves (c) .. | .. | .. | .. | 248 | 248 |
| Other Forested Reserves | 612 | 310 | 234 | .. | 1,156 |
| Total | 1,206 | 604 | 234 | 1,881 | 3,924 |

(a) Estimated forested component of national parks and scenic reserves.

(b) Land permanently dedicated to timber production.

(c) Land reserved for timber supply, including fuel.



Distribution of State Forests

The area of plantations of exotic pines at 30 June 1967 was 37,903 acres, of which 11,044 acres were on private land.

Classification of State Forests

The classification by the Forestry Commission of the State Forests is a continuous process and a large section still remains unclassified. The position is as follows:

Classification of State Forests at 30 June 1967
('000 Acres)

| Particulars | Area |
|---|-----------|
| Commercial Forest— | |
| Eucalypt (sawlog quality) | 515 |
| Eucalypt (pulpwood and firewood) | 244 |
| Regrowth (immature forest) | 192 |
| Rain Forest (myrtle, sassafras, etc.) | 227 |
| Cleared Land (deforested areas) | 57 |
| Total Productive Forest | 1,235 |
| Protection Forest— | |
| Scrubland and Plains | 328 |
| Barren and Waste | 255 |
| Total Unproductive Forest | 583 |
| Total Classified Forest | 1,817 |
| Total Unclassified Forest | 851 |
| Total State Forest | (a) 2,668 |

(a) Includes area as proclaimed at 30 June 1967 (2,520,427 acres) plus 147,678 acres, the additional area disclosed by revised mapping.

The State Forests are located, in the main, in four distinct regions: (i) far north-west about the axis of the Arthur River; (ii) north-eastern highlands; (iii) north and north-west of the Great Lake; (iv) from the south coast north to Lake King William.

Paper and Newsprint Industries

The establishment of paper, paper pulp and newsprint industries in the State has given rise to the need for some guarantee of assured timber supplies to the manufacturers, and therefore certain concessions and cutting rights have been awarded on Crown lands. All three pulp and paper manufacturers have plans to expand plant capacity. Details follow.

Burnie and Wesley Vale

Associated Pulp and Paper Mills Ltd and subsidiaries: manufacturer of paper and hard lining-board at Burnie and also of particle board at Wesley Vale. The company owns much forested land and holds cutting rights over Crown lands 15 miles each side of the Emu Bay railway line from the coast to the Pieman River.

At Wesley Vale, A.P.P.M. has completed the foundations of a new paper mill and the first machine will be installed late in 1968; from eucalypt hardwoods and *Pinus radiata*, the company intends to manufacture magazine and glossy papers. Production will commence in 1970.

A.P.P.M.'s particle board factory at Wesley Vale operates on *Pinus radiata*; the company owns some plantations and also obtains thinnings from plantations of the Forestry Commission. Production in 1966-67 was substantially higher than in 1965-66.

Boyer

Australian Newsprint Mills Ltd: manufacturer of newsprint at Boyer on the Derwent. The company is Australia's sole newsprint manufacturer. The company's concession follows the general line of the Derwent as far north as Lake King William. In June 1966, the *Florentine Valley Paper Act* increased A.N.M.'s concession area from 273,000 acres to 338,000 acres to provide the basis for an expansion programme; the company is required by the Act to supply 10 million super feet of logs to other timber-using industries each year.

Plans were announced for installation by 1969 of a third paper-making machine with the object of raising capacity from 94,000 to 165,000 tons of newsprint a year; subject to favourable economic conditions, the new machine should be in operation shortly.

Geeveston

Australian Paper Manufacturers Ltd: manufacturer of paper pulp at Geeveston on the Huon River. The company's pulpwood concession includes virtually the whole D'Entrecasteaux Channel coastline and the south coast as far west as Prion Bay; inland it extends west to the Mt Picton area. Also included in the concession are Bruny Island and Tasman Peninsula.

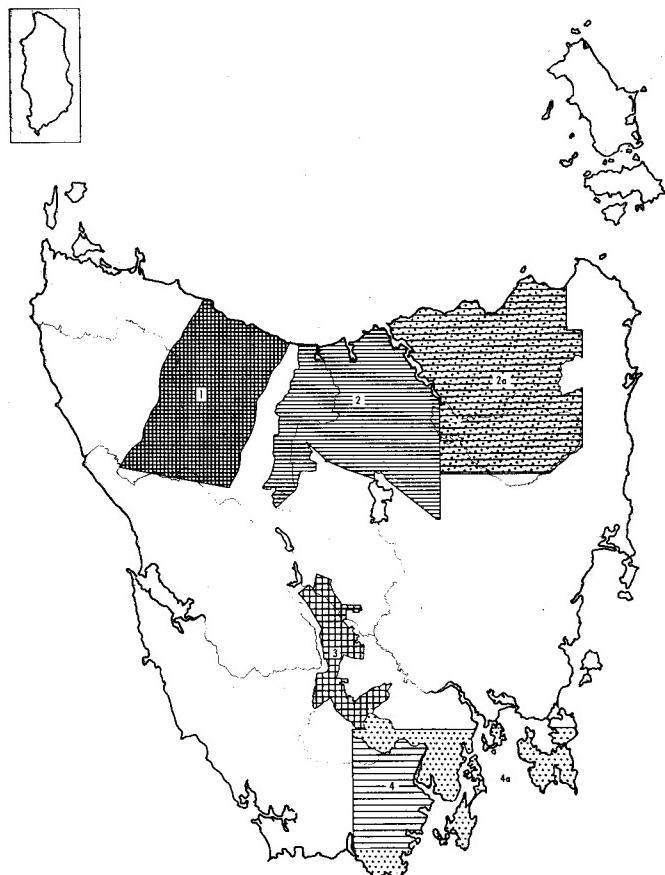
When built, the plant had an annual capacity of 25,000 tons of pulpwood; installation of a new pulp drier in 1966-67 raised capacity to 50,000 tons.

Multiple Use of the Forests

The establishment of paper-making industries in Tasmania has required careful use of existing forests and the Forestry Commissioners described the process in their 1960 report as follows:

'In respect of timber products, pulpwood and sawmill logs will come from the same areas and often the same trees. In this, the co-operation of the wood-using industries is already functioning well. Sawmill logs come out of both the A.N.M. and A.P.P.M. concession areas. Pulpwood is cut from areas cut by sawmillers or in conjunction with mill-log production; sawmill edgings and offcuts are delivered to the pulp mill at Burnie.' Since this report, A.P.M. has commenced operations at Geeveston and sawmill logs are also produced from this company's concession. In their 1964 report, the Commissioners made this point: 'The increased demand for pulpwood has led to the utilisation of trees and timber that would otherwise have been wasted.'

Two obvious examples of multiple use are: (i) pulpwood obtained as a by-product from mill-logging; (ii) waste from sawmilling operations used as a raw material in pulp and hardboard making. Despite this rational approach to more complete utilisation of timber resources, supplies are not inexhaustible and greater use must now be made of lower quality trees in milling. The Commissioners referred in their 1967 report to the role of Australian forests in the Australian economy as follows: 'Australia cannot afford the rising cost of importing from overseas countries the forest products it requires for development. Already \$200m of overseas credit is needed for this purpose. With the anticipated increase in population, the forest resources must be increased or this cost multiplied by two or three times in the next 35 years. The latter alternative would presume that the imports would be available; this is far from certain and already in 1967 other Pacific nations are exploring the possibility of obtaining wood from Australia. The wood can be grown in Australia as a long-term, profitable investment'.



Disposition of timber concession areas

- (1),(2) and (2a) : A.P.P.M.
- (3) : A.N.M.
- (4) and (4a) : A.P.M.

Plywood Manufacture

In 1947 there were four factories producing plywood but, by 1968, there was only one operator, Tas. Plywood Co. Ltd at Somerset. A considerable proportion of the State's production of plywood is exported and it ranks as a major export item. Raw materials for its manufacture are obtained from the hinterlands of Somerset, Wynyard and Burnie and from the A.N.M.'s Florentine Valley concession area. The company receives exclusive permits from the Forestry Commission, assuring it of a supply of raw material for a 15-year period.

Definition of Forest Production

The cutting of logs in a forest and the production of sawn timber in a mill seem closely related activities and may both, in fact, be conducted by a single operator with the same team of employees; similarly, the cutting of pulpwood and its later conversion to newsprint or fine paper may be viewed, in a broad sense, as a single activity. For statistical purposes, however, sawmills,

paper mills, newsprint mills, etc. are classified as factories and the raw materials on which they operate—logs, etc.—are treated as the product of the forestry sector of primary industry. It necessarily follows that the definition of forest production must be restricted to include only the output of logs, hewn timber, firewood, tanning bark, etc. before such products have passed into the sector covered by factory statistics (e.g. logging is a forestry activity, sawmilling a factory activity). Some forestry products, as just defined, (e.g. fence posts and rails, hewn sleepers, firewood, etc.) may go direct to the final consumer without passing as a raw material to the factory sector.

Subsequent tables dealing with forest production give details of quantity and value; the following definitions apply:

Measurement of Volume

There are three convenient units for expressing the volume of timber, namely cubic feet, true super feet and hoppus super feet. The volume in true super feet can be derived from this relationship:

- (i) Volume in true super feet = Volume in cubic feet $\times 12$. (A true super foot is the volume equivalent to a solid body, one foot long by one foot wide by one inch thick.)

The remaining measure, hoppus super feet, is used in the forest to record log volumes and is derived from the following formula for dealing with round timber:

- (ii) Volume in hoppus super feet = (One quarter the average girth in inches) squared, the result being multiplied by the length in feet and divided by 12.

The relationship between hoppus super feet and true super feet can be stated as follows:

$$(iii) \frac{\text{Volume in hoppus super feet}}{\text{Volume in true super feet}} = \frac{\pi}{4} = 0.7854$$

In this section, the volume of logs, timber, etc. is expressed in true super feet, some data originally received in terms of hoppus super feet having been converted.

Value of Forest Production

Gross Value of Production is the value placed on the recorded production at the wholesale price realised in the principal markets. In cases where forestry products are consumed at the place of production or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets (e.g. the value of logs cut for sawmilling is the value on the mill skids, analogous to 'value at the factory door' for the input of raw materials in general factory statistics).

Local Value (i.e. gross production valued at the place of production) is ascertained by deducting marketing costs from gross value. Marketing costs include freight, cost of containers, commission, and other charges incidental thereto.

In other production sectors, local value of production is further reduced by subtracting the value of materials used in the process of production, the final figure being *net value of production*. In the forestry sector, however, these data on the cost of materials are not available and therefore the only two measures available are: (i) gross value of production, and (ii) local value of production.

Source of Production Data

The principal source of data are the returns of the various establishments classified as factories (e.g. sawmills, newsprint mills, paper mills, plywood mills, etc.) and these establishments report their log input, their pulpwood input or their input of sawmill edgings and offcuts; other data are available from the State Forestry Department and the Bureau's export figures.

Statistics of Forest Production

The following table shows details of forest production:

Forest Production, 1966-67

| Product | Obtained From— | | Total |
|---|----------------|--------------|---------|
| | Crown Land | Private Land | |
| Logs for sawing, peeling, slicing or pulping— | | | |
| Forest hardwoods .. ('000 sup ft true) | 464,847 | 225,507 | 690,354 |
| Indigenous softwoods .. ('000 sup ft true) | 3,939 | . | 3,939 |
| Plantation grown pines .. ('000 sup ft true) | 16,397 | 7,218 | 23,615 |
| Total logs—quantity .. ('000 sup ft true) | 485,182 | 232,726 | 717,908 |
| gross value .. (\$'000) | (a) | (a) | 13,109 |
| Hewn and other timber (not included above)— | | | |
| Firewood—weight .. ('000 tons) | 28 | 416 | 444 |
| gross value .. (\$'000) | (a) | (a) | 2,557 |
| Other (gross value) (b) .. (\$'000) | (a) | (a) | 937 |
| Other forest products (gross value) (c) .. (\$'000) | (a) | (a) | 25 |
| Total gross value of forest products (\$'000) | (a) | (a) | 16,627 |

(a) Available only in total.

(b) Includes sleepers, transoms, girders, bridge timbers, mining timber, poles, piles, etc.

(c) Principally bark for tanning.

In the previous table, log production is a composite figure including the log input of sawmills and the log equivalent of cords of pulpwood taken into paper mills and newsprint mills.

Production Summary

The next table shows details of forest production for a five-year period on a basis comparable with the previous analysis (logs in true volume):

| Product | Forest Production | | | | |
|---|-------------------|---------|---------|---------|---------|
| | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
| Logs for sawing, peeling, pulping, etc.— | | | | | |
| Forest hardwoods .. (mill. sup ft) | 567.9 | 625.5 | 645.7 | 667.9 | 690.4 |
| Indigenous softwoods .. (mill. sup ft) | 2.5 | 3.3 | 2.8 | 3.5 | 3.9 |
| Plantation grown pines .. (mill. sup ft) | 13.8 | 20.4 | 20.9 | 25.4 | 23.6 |
| Total logs—quantity .. (mill. sup ft) | 584.2 | 649.2 | 669.5 | 696.7 | 717.9 |
| gross value .. (\$'000) | 10,724 | 11,459 | 12,431 | 13,105 | 13,109 |
| Hewn and other timber (not included above)— | | | | | |
| Firewood—weight .. ('000 tons) | 418 | 410 | 431 | 440 | 444 |
| gross value .. (\$'000) | 1,944 | 1,829 | 1,934 | 2,083 | 2,557 |
| Other (gross value) (a) .. (\$'000) | 440 | 398 | 949 | 799 | 937 |
| Other forest products (gross value) (b) .. (\$'000) | 18 | 13 | 12 | 3 | 25 |
| Total gross value of forest products .. (\$'000) | 13,126 | 13,699 | 15,326 | 15,990 | 16,627 |

(a) Includes sleepers, transoms, girders, bridge timbers, mining timber, poles, piles, etc.

(b) Principally bark for tanning.

Tasmanian and Australian Log Production

In the last table, log production is defined as relating to 'logs for sawing, peeling, slicing or pulping', (i.e. it includes logs destined for sawmills and also the log equivalent of pulpwood for processing in newsprint mills, paper mills, etc.). In terms of this definition, Tasmania is a major producer, the State's log production being nearly 18 per cent of the Australian total in 1966-67; the ranking of the major producers was Victoria with 24.8 per cent and N.S.W. with 21.4 per cent. Considering Tasmania's small relative size and population, it is apparent that forest production is one of its more important contributions to the Australian economy.

Summary—Gross and Local Value of Production

The following table gives details of gross and local values of forestry production for a five-year period:

**Gross and Local Value of Forestry Production
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Gross Value (Gross Production Valued at Principal Markets) | 13,126 | 13,699 | 15,326 | 15,990 | 16,627 |
| Less Marketing Costs | 1,812 | 2,060 | 2,057 | 2,154 | 2,295 |
| Local Value (Gross Production Valued at Place of Production) | 11,314 | 11,638 | 13,270 | 13,837 | 14,332 |

Values Derived From Factory Processing

For statistical purposes, some forest products are treated as passing through two sectors, namely (i) the forestry sector of primary production, and (ii) the factory sector. This treatment is necessary to the extent that the finished product of one sector may become the raw material of another (e.g. logs from the forestry sector pass to sawmills in the factory sector). To view the timber industry as a whole, it is necessary to take account of factory processing. The next table shows details of processing in the two most important factory sub-classes, namely sawmills and paper mills:

Factory Processing of Forest Products, 1966-67
Factory Class X, Sub-class 1—Sawmills
Factory Class XII, Sub-class 9—Paper Making

| Item | Sawmills | Papermaking | Total |
|----------------------------------|----------|-------------|--------|
| Factories Working (no.) | 279 | 4 | 283 |
| Average Workers (a) .. (no.) | 2,892 | 3,588 | 6,480 |
| Value of Output .. (\$'000) | 31,277 | 48,665 | 79,942 |
| Value of Production (b) (\$'000) | 12,185 | 23,359 | 35,554 |

(a) Average whole year, including working proprietors.

(b) Value of output less recorded costs of manufacture, other than labour.

The previous table does not include factory sub-classes X-2 (plywood mills), X-10 (wall and ceiling boards) or minor processors of untreated forest products; total values of output and production would be increased as much as five per cent by their inclusion. (Further details of factory processing appear in Chapter 8, 'Secondary Industry—Manufacturing'.)

Timber and Timber Products*Mill Production of Timber*

Particulars of logs treated and the production of sawn, peeled and sliced timber by sawmills and plywood mills are shown in the following table; the figures have been compiled from the annual factory collections and show the geographical distribution of milling activity (pulpwood treatment is excluded):

Logs Treated and Sawn Timber Produced, 1966-67

| Statistical Division | Logs Treated (True Volume) | | Sawn, Peeled or Sliced Timber Produced '000 sup ft |
|------------------------|----------------------------|---------------------------------|---|
| | Quantity '000 sup ft | Proportion of Total per cent | |
| Hobart | 27,755 | 6.1 | 12,167 |
| South Eastern | 11,868 | 2.6 | 4,678 |
| Southern | 45,401 | 10.0 | 16,816 |
| North Central | 26,113 | 5.8 | 9,729 |
| North Western | 155,463 | 34.4 | 59,386 |
| North Eastern | 69,074 | 15.3 | 26,251 |
| North Midland | 46,390 | 10.3 | 17,938 |
| Midland | 57,443 | 12.7 | 21,795 |
| Western | 12,540 | 2.8 | 5,633 |
| Total | (a) 452,047 | 100.0 | 174,394 |

(a) Hardwood logs, 440,579,000 super feet; softwood logs, 11,468,000 super feet; approximately 30 per cent of softwood logs were indigenous, the balance coming from plantations.

The difference between the volume of logs treated and of timber produced is not all waste from the miller's point of view. Admittedly, there is very limited use for sawdust but some offcuts are sold to the paper pulp industry and other waste is docked and sold as firewood.

In the previous table (from which logs cut for pulpwood are excluded), the principal centres of sawmilling activity are shown to be the north-west and north-east; the level of activity in the south can be gauged by adding the Hobart, Southern and Midland divisional figures.

Output and Exports

The following table shows timber production by mills for a five-year period, together with exports of sawn timber:

Production and Exports of Sawn Timber

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------------|---------|---------|---------|---------|---------|
| LOGS TREATED ('000 Super Feet True) | | | | | |
| Hardwood | 397,705 | 425,220 | 439,480 | 446,145 | 440,579 |
| Softwood | 15,568 | 15,111 | 12,906 | 12,813 | 11,468 |
| Total | 413,273 | 440,331 | 452,386 | 458,958 | 452,047 |

Production and Exports of Sawn Timber—*continued*

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------|---------|---------|---------|---------|---------|
|-------------|---------|---------|---------|---------|---------|

SAWN, PEELED OR SLICED TIMBER PRODUCED FROM LOGS ABOVE (a) ('000 Super Feet)

| | | | | | |
|-------------------|---------|---------|---------|---------|---------|
| Hardwood | 153,729 | 164,946 | 172,987 | 173,622 | 170,075 |
| Softwood | 6,135 | 5,911 | 5,086 | 4,857 | 4,319 |
| Total | 159,864 | 170,857 | 178,073 | 178,479 | 174,394 |

VALUE OF TIMBER AT ROUGH SAWN STAGE (\$'000)

| | | | | | |
|----------------|--------|--------|--------|--------|--------|
| Total | 12,788 | 14,317 | 15,450 | 16,239 | 16,372 |
|----------------|--------|--------|--------|--------|--------|

EXPORTS OF SAWN TIMBER (b) ('000 Super Feet)

| | | | | | |
|----------------|--------|--------|--------|--------|--------|
| Total | 60,591 | 71,398 | 80,446 | 73,863 | 79,447 |
|----------------|--------|--------|--------|--------|--------|

VALUE OF EXPORTS OF SAWN TIMBER (b) (\$'000)

| | | | | | |
|----------------|-------|--------|--------|--------|--------|
| Total | 9,858 | 11,175 | 12,811 | 12,145 | 13,672 |
|----------------|-------|--------|--------|--------|--------|

(a) Rough sawn timber including that subsequently seasoned and dressed to produce flooring, weatherboards, etc.

(b) Includes dressed and undressed timber.

Comparison

In the treatment of logs as defined in the previous table (i.e. basically of logs for sawmilling), Tasmania processed 12.5 per cent of the Australian total in 1966-67. The Tasmanian volume of logs treated was below that of all States except S.A. but its production of sawn, peeled or sliced timber far exceeds the demand generated by its relatively small population, a factor which accounts for considerable Tasmanian interstate exports of timber.

Employment

The next table shows the number of sawmills and the number of persons employed:

Number of Sawmills and Persons Employed (a)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------------|---------|---------|---------|---------|---------|
| Number of Sawmills | 322 | 305 | 308 | 289 | 279 |
| Average Number Employed During Year— | | | | | |
| Males | 2,560 | 2,701 | 2,793 | 2,880 | 2,834 |
| Females | 37 | 53 | 57 | 62 | 58 |
| Persons | 2,597 | 2,754 | 2,850 | 2,942 | 2,892 |

(a) In mills; excludes those engaged on logging operations.

In recent years, a number of small mills, particularly those operated on a part-time basis by orchardists for the cutting of case timber, have gone out of production. At the same time, the larger more efficient mills have intensified their operations, the result being a general rising trend in the number of persons employed.

Production of Wood Pulp and Paper

Details of paper and newsprint production are not available for publication but wood pulp figures are an indicator of activity.

Wood pulp is the basic material in the production of paper, newsprint, etc. and is made by any one of three processes, namely mechanical, chemical, or mechanical and chemical combined; the last process is referred to as 'semi-chemical'. The basic technological problem in producing satisfactory pulp from some eucalypt species, and from some other pulpwoods, was related to the relative shortness of their wood fibre; in the semi-chemical process, the preliminary chemical treatment of the wood reduces the amount of grinding required and thus prevents excessive fibre destruction. The following table shows production of this material over a five-year period, together with employment details for the industry:

Factory Class XII, Sub-class 9—Paper Making

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------------|---------|---------|---------|---------|---------|
| Number of Establishments .. | 4 | 4 | 4 | 4 | 4 |
| Average Number Employed During Year— | | | | | |
| Males | 2,727 | 2,863 | 2,887 | 3,029 | 3,042 |
| Females | 471 | 510 | 448 | 527 | 546 |
| Persons | 3,198 | 3,373 | 3,335 | 3,556 | 3,588 |
| Wood Pulp Produced (a) (tons) | 136,188 | 157,413 | 172,130 | 181,868 | 198,566 |

(a) Ground wood pulp, chemical and semi-chemical pulp.

In the previous table, figures for wood pulp should be regarded only as an index of production since the pulp is an 'intermediate' product which has still to be converted to fine paper, newsprint, etc.

Role of the Forestry Commission

The State Forestry Commission is primarily concerned with the conservation of Tasmania's forests; this requires that it should exercise control over the rate at which logs and pulpwood are taken, and also that it should introduce effective measures to ensure regeneration. Other important functions include: (i) fire prevention and suppression; (ii) road construction to give access to forests; (iii) development of plantations. Some concept of the scope of Forestry Commission activities can be obtained from the following table:

Summary—Activities of Forestry Commission (a)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------|---------|---------|---------|---------|---------|
| Production of Seedlings ('000) | 803 | 823 | 1,351 | 1,876 | 2,104 |
| Plantations— | | | | | |
| Established .. (acres) | 1,224 | 1,235 | 1,800 | 3,489 | 3,251 |
| Pruned .. (acres) | 3,538 | 3,178 | 2,409 | 2,782 | 2,324 |
| Thinned .. (acres) | 366 | 489 | 631 | 851 | 597 |
| Firebreaks— | | | | | |
| Constructed .. (miles) | 47 | 105 | 127 | 75 | 67 |
| Secondary Roads— | | | | | |
| Constructed .. (miles) | 59 | 77 | 105 | 81 | 71 |
| Improved .. (miles) | 27 | 12 | 23 | 19 | 12 |
| Major Roads— | | | | | |
| Constructed .. (miles) | 25 | 24 | 24 | 28 | 19 |

(a) Source: Reports of Forestry Commission.

At 30 June 1967, the Forestry Commission was responsible for the maintenance of 1,741 miles of major and secondary forest access roads; of this total, 1,345 miles had been constructed by the Commission, the balance by sawmillers. The Commission has a responsibility for preventing and fighting forest fires; losses through bush fires fought by the Commission are reported in the following table:

Bush Fires (a)

| Year | Fires Reported | Area Burnt | | | | Cost of Sup-pression |
|---------------|----------------|--------------|------------------|----------------------|--------------|----------------------|
| | | State Forest | Other Crown Land | Private Property (b) | Total (c) | |
| 1961-62 | no. 137 | acres 7,760 | acres 15,982 | acres 4,162 | acres 27,904 | \$ 21,316 |
| 1962-63 | 126 | 6,001 | 11,640 | 4,039 | 21,680 | 17,918 |
| 1963-64 | 252 | 19,706 | 35,352 | 11,460 | 66,518 | 72,624 |
| 1964-65 | 146 | 4,037 | 4,701 | 3,077 | 11,815 | 31,828 |
| 1965-66 | 317 | 33,015 | 50,489 | 45,643 | 129,147 | 71,918 |
| 1966-67 | 264 | 83,954 | 194,979 | 147,286 | 426,219 | 108,018 |

(a) Source: Reports of the Forestry Commission. Restricted to fires fought by the Commission.

(b) Includes only fires fought to protect adjoining State Forest or timbered Crown Land.

(c) Incomplete; see note (b).

The main revenue of the Forestry Commission is derived from royalties, i.e. charges paid by those taking timber from Crown lands. By law, such revenue is specifically reserved for expenditure on forestry. The next table has been compiled to show the revenue and expenditure of the Commission for the last five years; expenditure exceeds revenue since money from State loan funds devoted to forestry purposes is included in expenditure.

Forestry Commission—Revenue and Expenditure (\$'000)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|---------|---------|---------|---------|-----------|
| REVENUE | | | | | |
| Royalties | 1,007 | 1,115 | 1,387 | 1,427 | 1,480 |
| Sale of Forest Products .. | 45 | 61 | 73 | 34 | 32 |
| Other | 37 | 35 | 39 | 40 | 45 |
| Total | 1,089 | 1,211 | 1,499 | 1,500 | 1,557 |
| EXPENDITURE (a) | | | | | |
| Administration— | | | | | |
| Revenue Collection .. | 128 | 136 | 120 | 117 | 113 |
| Forest Management .. | 375 | 383 | 512 | 492 | 412 |
| General | 331 | 391 | 319 | 327 | 313 |
| Forest Works— | | | | | |
| Road Construction .. | 451 | 763 | 1,086 | 809 | 700 |
| Building and Other .. | 66 | 38 | 80 | 69 | 136 |
| Afforestation and Reforestation | 287 | 293 | 504 | 789 | 935 |
| Forest Protection (n.e.i.) .. | 298 | 225 | 119 | 87 | 112 |
| Mapping and Surveys | 45 | 52 | 77 | 73 | 92 |
| Land Purchases | 5 | 9 | 10 | 8 | 9 |
| Purchase, Plant and Equipment | 68 | 96 | 158 | 27 | 16 |
| Interest on Advances (b) .. | .. | .. | .. | .. | 257 |
| Total | 2,054 | 2,386 | 2,985 | 2,798 | (c) 3,095 |

(a) Aggregate expenditure from all sources, i.e. Consolidated Revenue, Loan and Trust Funds.

(b) Forestry Fund Account charged with interest on advances from State Loan Fund in 1966-67; no charge raised in previous years.

(c) Not comparable with previous totals; see note (b).

Commonwealth-State Agreement

In 1966-67, the Commonwealth and Tasmanian Governments reached agreement upon the availability of special interest-free loans, repayable over a ten-year period; the money is to be used for extending softwood plantations. In 1966-67, the Forestry Commission established 3,251 acres of plantations which fell short of its target of 4,100 acres; the Commission plans to catch up with the deficit in 1967-68, as well as carrying out the programme for that year. The Commonwealth aim is to establish 2 million acres of pine plantations in the next 40 years and Tasmania's target, as part of the plan, is 200,000 acres.

MINING**Introduction**

For statistical purposes, mining is taken to cover the operations normally thought of as mining and quarrying (i.e. the removal from underground or surface workings of ores, etc.), the recovery of minerals from ore dumps, tailings, etc. and ore dressing (i.e. concentration and other elementary treatment). It does not include the smelting and/or refining of metallic minerals or the processing of non-metallic minerals (e.g. limestone into cement), and these operations are classified as manufacturing.

In the present Tasmanian economy, three important metals will serve to illustrate the distinction between mining and manufacturing: aluminium, produced at Bell Bay on the Tamar; zinc at Risdon near Hobart; and copper at Mt Lyell on the west coast. In terms of the previous definition, the three metals are considered to be the output of manufacturing and only a small part of their value is attributable to the mining industry in Tasmania. In the case of aluminium, no Tasmanian ores or concentrates are used and no value accrues to the Tasmanian mining industry. A substantial part of the value of the aluminium is, in fact, accounted for by imported materials. Zinc is produced from both imported and locally-produced concentrates, but only the value of the local concentrates produced at Rosebery is included in the Tasmanian mining industry. Blister copper is produced entirely from locally-produced concentrates, the whole operation, from mining the ore to producing blister copper, being integrated at the one location in the Mt Lyell area. In this case, a division of the one establishment is made into mining (covering operations up to the concentration stage) and manufacturing (smelting). To take a more recent example, the digging of iron ore at the Savage River is taken as part of mining activity but the pellet-making at Port Latta is included in the manufacturing sector.

Source of Information

(i) Employment, Production Costs, Values of Output and Production, etc.: an annual census of mines and quarries is conducted by the Bureau of Statistics and details are collected for calendar years. The information on materials used, salaries and wages, etc. is compiled for mines and quarries employing four or more persons, thus achieving uniformity with other Australian States. Value of output is shown in two ways, either for all mines and quarries, or for mines and quarries employing four or more persons.

(ii) Data appearing on quantities produced, assayed contents, etc. are obtained primarily from the State Mines Department, with supplementary information from the Bureau's annual census of mines and quarries and from the Commonwealth Bureau of Mineral Resources.

*Supply and Demand***Historical**

While Tasmanian farm and factory activity over the years has displayed, in the main, an orderly pattern of growth, mining activity has been subject to frequent and severe fluctuations, the result of changes in supply and demand as reflected in the market price of particular metals. Examples of factors contributing to this relative instability are: (i) *Supply*—the possible fall in prices when major fresh discoveries are worked in other countries; (ii) *Demand*—the possible rise in prices when war, or fear of war, leads to large-scale purchases of particular metals; (iii) *Technological change*—for example, after the invention of the ball point pen, osmiridium, used for tipping fountain pen nibs and once produced in large quantities in Tasmania, suffered a resulting decline in value.

Definition of Mining

Unfolding the record of the various minerals produced in the State is made difficult by the manner in which previous official mining statistics were compiled. In current statistics, a distinction is made, in broad terms, between mining a mineral and subsequently refining it to obtain its metallic content—the second process is treated as manufacturing and included under Class IV in factory statistics. However, this distinction was not made in earlier statistics and therefore historical comparisons cannot be made with any accuracy. A further difficulty occurs with regard to the value of ores which, in older series, were valued, in the main, according to the world price for their estimated metallic content, irrespective of whether the extraction was carried out in Tasmania itself, in other States or in overseas countries. Thus the earlier historical value series is inflated and does not reflect the true earnings of mineral producers within the State. In the evolution of a proper basis for current mining statistics, the chief requirement was to satisfactorily define a border between mining and factory activities and, for Tasmanian data, this was not accomplished until 1952 when the Bureau of Statistics conducted its first mining census.

Because of the definitional difficulties just listed, the historical account of mining in the State has been deliberately restricted largely to details of physical production, other measures such as employment, value of output, etc. not being comparable with those used in the current series commencing 1952.

*Early Fields***Coal**

The site of Tasmania's first mine was on Tasman Peninsula when the convicts from Port Arthur dug out 60 tons of coal in 1834. Highest production was 10,400 tons in 1840 but, within three years, the work ceased due to the poor quality of the coal and discoveries at other sites. The island's principal coalfields eventually were opened up in the Fingal Valley, and the following table shows coal production at the time of their discovery (1886):

**Coal Production at Tasmanian Mines, 1885, 1886 and 1890
(Tons)**

| Locality (a) | 1885 | 1886 | 1890 |
|------------------------------|-------|--------|--------|
| Mersey and Latrobe | 2,114 | 1,400 | 3,778 |
| Longford | .. | 1,230 | 1,000 |
| Oatlands | 700 | 600 | 600 |
| Hobart (New Town) | 460 | 936 | .. |
| Richmond (Jerusalem) | 1,320 | 605 | 600 |
| Kingborough | 560 | 500 | 150 |
| Franklin (Port Cygnet) | 1,500 | 1,300 | 2,738 |
| Fingal | .. | 3,820 | 44,946 |
| Total | 6,654 | 10,391 | 53,812 |

(a) Localities as listed in 1890 in 'Statistics of Tasmania'.

Decline in Production

By 1920, annual production had reached 75,000 tons; by 1950, it exceeded 220,000 tons. The peak production year was 1959-60 with an output of over 300,000 tons but, since then, there has been a decline due to competition from oil (the introduction of diesel locomotives contributed, in minor degree, to the fall in demand but the major factor has been a change from coal to oil fuel in manufacturing industries). Throughout this whole period, from 1886 till today, the mines of the Fingal Valley have been the State's principal source of coal. In 1967, annual Tasmanian production had fallen to 77,000 tons.

The fall in the demand for coal had an adverse effect upon employment in the Fingal Valley, and resulted in an enquiry into the possibility of generating electric power from Tasmanian coal; the subsequent report was not in favour of thermal generation, and considered expansion of existing hydro-electric works the more economic proposition. More recently it has been decided to proceed with the first thermal station, but this is being built at Bell Bay and will use oil fuel rather than coal. The State Government has begun plantations of exotic pines in the valley, with the aim of absorbing some of the displaced miners into forestry work.

By Australian standards, the State's black coal production has never been on a large scale and even in the year of peak Tasmanian production (1959-60), it represented only one and a half per cent of the Commonwealth total to which N.S.W. contributed nearly 80 per cent. (This total excludes brown coal mined in very large quantities almost exclusively in Victoria.)

Introduction

Gold

The discovery of gold in payable quantities in the 1850s was an epoch-making event in Australian history, for, as one writer aptly phrases it, this event 'precipitated Australia into nationhood'. The major strikes, however, were confined to Victoria and, to a lesser extent, to N.S.W., so that, if gold then had any significance for Tasmania, it was in its attraction for prospectors. Searching for this one metal, often without success, they eventually discovered those other minerals from which the State's principal mining wealth is derived.

Early Fields

The first appearance of gold mining in *Statistics of Tasmania* dated from 1866 when crushing at Fingal in the north-east produced 347 ounces from 2,872 tons of quartz; alluvial mining is also mentioned with this footnote: 'It is impossible to give the quantity and value of gold obtained from alluvial diggings, although there is reason to believe that those employed thereon are doing well'. In actual fact, gold had been discovered much earlier, in slate rocks near Lefroy in 1849 and then at Mangana near Fingal in 1852, the second find setting off a minor gold rush to the alluvial diggings. The early miners were secretive and able to take their wealth out of the State without record.

During 1859 the first quartz mine started operations at Fingal; in the same year James Smith (better known as 'Philosopher Smith') found gold at the River Forth, and Peter Lette at the Calder. Reef gold was discovered in 1869 at Lefroy by S. Richards. The first recorded returns from the Mangana fields date from 1870; Waterhouse, 1871; Hellyer, Denison and Beaconsfield, 1872; Lisle, 1878; Gladstone and Cam, 1881; Minnow and River Forth, 1882; Branxholm, 1883; and Mt Lyell, 1886.

Throughout the rest of the 19th century, gold was produced at a variety of locations, including Mathinna, Lefroy, Fingal, Lisle, Mangana, Corinna and Hellyer but the largest single source was the 'Tasmania Mine' at Beaconsfield

which began operating in 1878. The effect of Beaconsfield operations can be judged from the following State gold production figures (in ounces): 1877, 5,777; 1878, 25,249; 1879, 60,155. Employment in gold mining in 1879 was stated to exceed 2,000 men. Peak gold production for the State was reached in 1899 with 83,992 ounces but this was still only a minor contribution—just over 2 per cent—to the Australian total; a year earlier, production in W.A. had, for the first time, exceeded that in Victoria. To set Tasmanian gold mining in its correct perspective, the following production figures (in '000 oz) are quoted for the Commonwealth in 1903: N.S.W., 254; Victoria, 767; Queensland, 669; S.A., 21; W.A., 2,065; Tasmania, 60; total, 3,836 (1903 was the peak production year for both the Commonwealth and W.A.).

Ranked in order of accumulated yield, the State's three principal gold mining centres were Beaconsfield, Mathinna and Lefroy. The 20th century witnessed a decline in Tasmanian gold mining, as such; when the 'New Golden Gate' at Mathinna closed in 1912, State annual gold production had fallen to 37,973 ounces. In 1919, with the closure of the 'Tasmania Mine' at Beaconsfield, annual gold production fell to 7,686 ounces. The Mines Department has recently drilled test bores into the old 'Tasmania Mine', with a view to reopening it. Tenders were called from private interests but none was lodged.

Present Production

Today there are no gold mines, as such, operating but gold is still produced as a by-product from other minerals, principally concentrates of lead-copper, copper, lead and zinc. It is paradoxical that the Tasmanian yield, in relation to the Commonwealth total, is now relatively greater than it was in the days of 'pure' gold mining. The assayed gold content of Tasmanian minerals mined in 1967 was 37,519 fine ounces, compared with a Commonwealth total of 810,000 fine ounces, i.e. the Tasmanian proportion had increased to 4.6 per cent.

Mt Bischoff

Tin

Tasmania's early gold finds had been discouraging when compared with the rich sources uncovered in Victoria but, in 1871, Mr James Smith discovered 'tin oxide' (cassiterite) in what later became known as Tinstone Creek near Mt Bischoff. He smelted it at the store at Table Cape and showed it to friends, some of whom thought the metallic lump might be silver.

Investigation of Mt Bischoff showed it to be the greatest tin deposit then known in the world. It lay inland over 30 miles south-west from Burnie in rugged and inhospitable country, the immediate problem being to bring in equipment and to get the ore out to the coast. The first solution was a horse-drawn tramway, later to be replaced by the 48-mile Burnie-Waratah line, opened for traffic by the Emu Bay and Mount Bischoff Railway Company in 1884. It was an extension of this line to Zeehan at the turn of the century that gave the west coast mining areas a direct rail link to the north-west coast. Thus, the original tin deposits at Mt Bischoff, quite apart from their vast yield of a valuable metal, played a vital part in opening up communications to the remote west coast, and in developing the town of Burnie as an outlet port.

The following report appeared in *Statistics of Tasmania, 1907*:

'The Mount Bischoff Tin Mining Company, Registered.'

Capital, £60,000 in 12,000 shares of £5 each, 4,400 paid up to £5 per share and 7,600 paid up to £1 per share.'

Dividends paid to 31st December, 1907, £2,124,000 or £177 per share.'

Yield of 66,562 tons, Tin Ore, valued at £4,181,698'.

Before production finally ceased shortly after World War II, more than 80,000 tons of tin ore had been mined from Bischoff.

Other Fields

The Bischoff discovery was followed by numerous others, first in the north-east and then at Mt Heemskirk on the west coast; many of the north-east deposits were alluvial. Main production today is centred on Rossarden, Gladstone and South Mt Cameron in the north-east and Renison Bell and Mt Cleveland on the west coast; other sources now worked on a small scale are very widely distributed (e.g. Port Davey, Waratah and Pioneer).

Present Production

In 1967, the assayed tin content of tin concentrates produced throughout Australia was 5,379 tons, the Tasmanian component being 1,529 tons. Some concept of the earlier scale of Tasmanian tin mining can be obtained from these export figures: average annual Tasmanian exports of tin, decade ending 1890, 3,800 tons; decade ending 1900, 2,650 tons. A mixture of export and production figures in the decade ending 1910 suggests that tin production had lifted to an annual average of 3,350 tons. In 1920, annual production fell to 1,310 tons and, since then, has often been below 1,000 tons. An expansion of tin mining is now in progress, the 1967 figure (1,529 tons) representing a 50 per cent increase above the 1966 figure (1,031 tons).

Expansion Programmes

The Renison Bell tin mine on the west coast was first worked in 1905, has closed down on a number of occasions, but is now engaged in an expansion programme which included the building of workers' homes at near-by Zeehan. New milling plant is designed to treat 1,000 tons of ore per day, ore reserves being estimated at nearly 14m tons averaging 0.75 per cent tin. At Mt Cleveland near Waratah, production is being increased and the township of Luina has been built to house miners.

*Early Fields***Silver**

Silver-lead ore was found near Zeehan in 1882; six years later, the Zeehan-Dundas area was invaded by numerous syndicates in search of silver. The optimism of the period was reflected in the Tasmanian Government's decision to commence construction of a Zeehan-Strahan railway in 1890, Trial Harbour being too exposed a port to serve the new fields.

In 1891, there were 159 companies and syndicates operating in the Zeehan-Dundas area when a general financial crisis halted most operations. The set-back was only temporary and in 1898 a smelting plant was installed at Zeehan, over 20,000 tons of silver-lead ore being mined annually. Although the fields initially gave rich returns of silver, the ore was not comparable with that at Broken Hill and could not be obtained in payable quantities below the 600 foot level. Silver is also present in the complex ores mined at Rosebery but the high zinc content defeated most early efforts to extract it profitably. By 1909, the smelters at Zeehan closed down for lack of galena ore to process, although calcining of the Rosebery ores was continued.

Present Production

The State still produces silver today but mainly as a by-product of copper mining at Mt Lyell and zinc-lead mining at Rosebery; 'pure' silver-lead mining is carried on at Tullah but there is no silver production from the once famous Zeehan fields. In 1967, the assayed silver content of Tasmanian mine production was 1,799,000 fine ounces, approximately 9 per cent of the corresponding Australian total. N.S.W. and Queensland are the leading producers.

*Mt Lyell***Copper**

The mining of Tasmanian copper at Mt Lyell dates from the 1890s, the original source of ore being the Iron Blow near Linda Creek; this outcrop had been developed without much success as a gold mine after its discovery in 1883. The problems of exploitation were difficult, the complete lack of road or rail communication with Macquarie Harbour being the most challenging. Although dozens of companies and syndicates pegged claims on the Lyell fields, only two—the Mount Lyell and the North Mount Lyell—had the necessary capital to face up to the problem of transport, each deciding to build a railway to its own chosen port on the harbour. By 1900, each company had its own line, the Mt Lyell running to Strahan, the North Mount Lyell to Kellys Basin. The absurdity of two railways and two ports serving the same field was ended in 1903 when an amalgamation occurred.

The Mt Lyell operations were notable for a metallurgical discovery of world importance when Robert Sticht smelted copper in 1902 without use of coke, relying on the sulphur content of the pyritic ores and using a cold forced air draught in lieu of the accepted hot air method. Successful low cost smelting played a large part in establishing the industry. At the turn of the century, Mt Lyell, with its annual output of 10,000 tons or so of copper, was the leading Australian producer; since then, other important fields in Australia have been developed and its relative importance has declined even though its annual output of copper has actually increased. For a mining field, Mt Lyell has shown remarkable stability over its seventy years of exploitation. As the original rich finds were worked out, improvements in handling and recovery allowed the profitable processing of lower grade ores, and successful operations continue today using some ores of less than one per cent average copper content—a task impossible with the techniques available at the turn of the century. Open cut mining has been a widely-used method although underground mining is becoming important again.

Present Production

In 1967, the assayed copper content of Tasmanian mineral production was 17,263 tons, or about 19 per cent of the corresponding Australian total, Queensland being the principal producing State. Over 90 per cent of the Tasmanian total derives from Mt Lyell ores but there is also a copper content in the ores mined at Rosebery and Williamsford.

*Rosebery***Zinc**

The present township of Rosebery 20 miles north of Queenstown supports a population of nearly 1,800, the principal activity being the mining of zinc ores for treatment at the Electrolytic Zinc Company's Risdon plant near Hobart. It is therefore paradoxical that, from the discovery of zinc-lead ores near Mt Read in 1894 until the early 1920s, the large percentage of zinc found in the region's minerals should have been the main bar to successful development of the field. Early penetration had sprung from the search for gold but once treatment of the complex Rosebery ores was attempted, the smelting techniques then available were not capable of recovering the zinc; lead, gold and silver were the metals recovered but removal of the zinc, a complete waste, made the process costly.

Risdon

In 1914, the war prevented the shipping of N.S.W. Broken Hill zinc concentrates to German and Belgian zinc works and therefore the producers decided to establish their own refinery, selecting Risdon near Hobart as the

site and planning to use hydro-electric power generated from the Great Lake. Tests were made on the complex Rosebery ores and methods evolved so that both lead and zinc could be efficiently recovered. At first the Risdon plant operated on the imported Broken Hill concentrates but, by 1925, it had sufficient capacity to also process local ores brought from Rosebery. The Rosebery mines have been in continuous operation since 1925, apart from a temporary shut-down in the period 1930-1936 when depressed world zinc prices curbed production. While the primary aim is the production of zinc, by-products recoverable from the Rosebery and Williamsford ores include lead, copper, cadmium, gold and silver. In terms of total value of metallic content, the minerals mined in this area closely approach in importance those mined at Mt Lyell.

Present Production

In 1967, the assayed zinc content of Tasmanian mine production was 48,857 tons, approximately 12 per cent of the corresponding Australian total; N.S.W. was the major producer of zinc bearing ores. (Tasmania is still the leading producer of refined zinc, the recovery process using both local and interstate concentrates. Production constitutes about 74 per cent of the Australian total.)

Lead

The mining fields at Zeehan and Dundas had been established with silver as the goal, silver-lead ores being the source; lead was produced as a by-product. Silver-lead mining has long since ceased on the Zeehan fields but is still in progress at Tullah, a few miles north-west of Rosebery, where the ore is now processed.

Lead is also a constituent of the complex Rosebery and Williamsford ores and these are now the principal source of lead in the State. In 1967, the assayed lead content of Tasmanian mine production was 15,132 tons, about four per cent of the corresponding Australian total; N.S.W. and Queensland are the principal producers.

Tungsten

Tungstic oxide (WO_3) occurs in two forms: in scheelite (calcium tungstate) and wolfram (iron manganese tungstate). There is a marked distinction between the mining of scheelite and of wolfram. Whereas scheelite in Tasmania is mined for its WO_3 content, wolfram is usually found in association with tin. Production of wolfram began in 1906 at Moina in the north-west but most now comes from mixed tin-wolfram mines in the Avoca area. The tin-wolfram combination is a good basis for operations because producers can stockpile their wolfram concentrates when tungsten prices are unfavourable.

Production of scheelite has been carried out on King Island, first in the period 1917-1920, and then again from 1938 onward, apart from a short close-down in 1959. For a few years after this, prices were unfavourable and the industry was only able to survive with the help of a subsidy from the Tasmanian Government, the level of assistance being related to movements in world price. A price recovery then enabled the operator to repay the subsidy in full, final payment being made in 1966.

In 1967, the assayed tungstic oxide content of Tasmanian mine production was 1,183 tons; this was virtually the Australian total, Tasmania being the sole regular producer.

Sulphur

There are no known deposits of elemental sulphur in Australia, but its use is of vital importance in the heavy chemical and fertiliser industry, the principal form being as sulphuric acid. The sulphur content of the Mt Lyell and Rosebery ores is used to manufacture this acid. Mt Lyell pyritic ore is concentrated and exported, while the Rosebery zinc concentrates are used to produce sulphuric acid as a by-product at the Risdon zinc plant. In 1967, the assayed sulphur content of Tasmanian mine production was 61,483 tons, approximately 17 per cent of the corresponding Australian total.

Iron Oxide and Iron Ores

Tasmania has large deposits of iron ore, the principal use until recently being for oxidised ore in the local manufacture of cement. However, in 1956, the Tasmanian Department of Mines, in conjunction with the Commonwealth Bureau of Mineral Resources, commenced a series of geological and geophysical surveys followed by drilling. A large iron ore deposit at the Savage River attracted the attention of Australian-American interests, the project being the conversion of the ore to a slurry and its transfer by pipe-line and pumping to Port Latta, near Stanley, for shipment to Japanese ports in pellet form. This development is described in some detail in the following section.

The Savage River Iron Ore Complex

Introduction

Valuable mineral deposits may lie unworked for many decades for at least two reasons: (i) *poor accessibility*, i.e. lack of suitable communications to allow profitable marketing; (ii) *grades of ore too low* for profitable concentration by any technique known at the time of discovery. These factors were certainly operative at the Savage River where iron ore deposits had been found in the 1870s. Not many miles to the east was Mt Bischoff where tin was discovered in the same decade; tin, due to its higher price, was worth working and, to market it, the Emu Bay railway was built from Waratah to Burnie (opened in 1884). Fortunately technology is not static; by 1965, new ore concentration and transport methods made it possible to consider working the Savage River iron deposits and the first ore shipments were made to Japanese steel mills in 1968.

Investigation

In 1956, the Tasmanian Department of Mines, in conjunction with the Commonwealth Bureau of Mineral Resources, commenced a series of geological and geophysical surveys followed by drilling. The known iron-ore deposit at the Savage River was found to be very large and private interests continued the investigation to determine its full extent. By 1963, Pickands Mather International, a U.S. leader in iron mining, had begun a \$2.5m feasibility study and two years later it announced that the Savage River deposits could be worked profitably. Japanese steel manufacturers had also shown interest in the project, and Mitsubishi Shoji Kaisha Ltd entered into an agreement with the U.S. company for development of the field and export of processed ore to Japan. The Tasmanian Government, in the *Iron Ore (Savage River) Act 1965*, granted the developers a 30 year lease and receives royalty payments of 15 cents a ton on the first 60m tons of shipments.

The Problems

(i) The main problem was transport. The deposit lay in rugged rainforest country about 40 miles due south from the north-west coast, and considerably further by road from any port either on the west or north-west coast. Given

that iron ore is a bulky freight, there was no way of getting it to the sea by road or rail without incurring astronomical costs. Pickand Mathers' answer was to build a pipeline from the Savage River to the north-west coast and pump the ore through it to a specially constructed loading port; existing conventional ports would not provide adequate handling or berthing facilities, quite apart from any consideration of distance from the mine.

(ii) A second problem was the low iron content in the deposit, generally below 40 per cent (some W.A. grades are 65 per cent). The Tasmanian ore had one peculiarity—it could be attracted by a magnet; most iron ores do not have this property. This fact provided an answer to the concentration problem; the powdered product of the mine could be separated into up-graded iron ore and waste by the action of huge electro-magnets.

The Solution

Pickand Mathers' solution was as follows: (i) work the deposits by open cut methods; (ii) concentrate the ore by magnetic separation; (iii) pump the concentrate 53 miles as a slurry to the coast a few miles east of Stanley; (iv) mix the concentrate with clay at the coast and bake the mixture to produce hard pellets; (v) ship the pellets to Japan, using a specially designed loading structure (the pellet-making plant and export terminal are now known as Port Latta). During construction, the total capital cost of the undertaking was estimated as \$62m but, when the plant began operating, the figure was announced as \$70m.

The Open Cut

The Savage River deposit now being worked for shipment through Port Latta is only a part of the total known lode and the 30-year agreement (for 60m tons of pellets) will leave large deposits untouched to the north and south of the present work-site. The ore body being mined is about 400 feet wide and will be taken down 850 feet below existing levels by the open cut method; the 'step-in' technique is used, requiring the creation of benches about 40 feet high. Blasting dislodges 70,000 tons of material at a time; this is scooped up with electric shovels of six cubic yard capacity and loaded into 50-ton trucks for carriage to the crushers.

The open cut is worked 24-hours a day, six days a week, using three shifts.

The Concentration Plant

The object of the concentration plant is to raise the iron content to 67 per cent. The various processes are necessarily complex but two can be distinguished: (i) *mechanical*, e.g. crushing, screening, etc; (ii) *electromagnetic*, i.e. separating the magnetic ore from non-magnetic material by magnetic attraction. The finished milled product has the fineness and consistency of talcum powder and is then ready for conversion to a slurry for pumping through the pipeline to Port Latta.

The Pipeline

Dimensions: The pipeline stretches 53 miles from the Savage River to Port Latta; its diameter is nine inches. The pipeline could not be taken in a straight line to the coast because, quite apart from the rugged nature of the country, the maximum gradient was designed not to exceed one in ten. The survey problem for the pipeline was therefore somewhat analogous to that for a railway (Tasmanian maximum railway gradients are one in forty).

Construction: The preliminary survey was very expensive since visibility in rainforest country can be as restricted as two or three feet; in conditions like these, the bulldozer becomes as essential as the theodolite. In addition,

there were rivers to be crossed, e.g. the Savage, Donaldson and Arthur. The most impressive crossing is on the Savage, where nearly a thousand feet of pipe hang in space 500 feet above the river; the structure is in effect a suspension bridge with the pipeline taking the place of a carriageway. By way of contrast, the pipe is buried as deep as 10 feet below ground level at some points.

Pumping Capacity: The slurry to be pumped is a mixture of 40 per cent water and 60 per cent iron ore concentrate. At Savage River, the driving mechanism is provided by four 600 hp pumps which build up a pressure of 1,500 lb per square inch. The slurry moves at an average speed of about 4 mph and takes 14 hours to emerge at Port Latta. In a nine-inch pipe, this is only equivalent to a flow of about three cusecs but, taken over a year, it is sufficient to carry millions of tons of ore to the pellet-making plant on the coast.

Pellet-making Plant

At Port Latta, the slurry is de-watered and mixed with bentonite clay before entering furnaces to be dried and baked. The final product is a small, hard, iron ore pellet somewhere about the size of a marble. The pellets are sufficiently robust to be dropped into a ship's hold without breaking up, and are suitable for feeding straight into the furnaces at Japanese steel mills; pelletised ore is also extremely easy to handle by conveyor belt loading and unloading gear. The plant operates continuously on a seven day week basis.

Loading Jetty

Specifications: Iron ore freighters are very large vessels, often in the 60,000 to 90,000 ton category. Whatever port facility was provided, it had to allow for berths in 50 or more feet of water at low tide.

Site: In Brickmakers Bay, the site of Port Latta, there is some sheltering effect from westerly swells since the Stanley peninsula juts out into Bass Strait a few miles to the west; the port is not protected from northerly seas. The sea-bed out from the shore is hard rock.

Description: The loading jetty stretches over a mile into the open sea and carries three facilities: (i) an endless 48-inch conveyor belt 11,800 feet long, i.e. designed to carry pellets a distance of 5,900 feet; (ii) a pipeline for receipt of oil from tankers, the furnaces in the pellet plant being oil-fired; (iii) a catwalk. The jetty is a highly specialised structure and the complex uses the conventional ports of Stanley and Burnie for anything that has to be imported (apart from oil). At the deep end of the jetty, there are twin loading platforms, each with a separate 54-inch belt assembly which can be switched from hold to hold, so that berthed ships do not have to move in the loading process.

Berthing: Ore ships tie up to mooring buoys, 8 feet in diameter and 16 feet long, secured to anchorages in the rock-bed by heavy steel chains. Their holds are fed with pellets carried on conveyor belts.

Loading Rate: The endless belt conveyor system can load pellets into ships at the rate of 2,750 tons per hour.

Quantity and Value Estimates

The output of the Port Latta plant will be approximately 2.5m tons of pellets a year; this will require the mining and treatment of about 10m tons of material, including overburden, a year. At present prices, 20 years' production should yield nearly \$600m. The return to the Tasmanian Government, through 15 cents a ton royalty payments, should approximate \$400,000 per annum.

Employment and Housing

At the peak of construction, employment in the complex rose to 1,600 but normal operations will require about 500. At the mine, located in previously uninhabited country, it was necessary to create the township of Savage River and spend \$2m on housing alone.

Date of Operation

The first slurry was passed through the pipeline on 26 October 1967; the official opening ceremony, with overseas visitors from U.S.A. and Japan strongly represented, took place at Port Latta on 6 March 1968. The first ore-carriers to use the port berthed in April 1968.

Exploration

(The following was written from information made available by the Mines Department.)

Introduction

The ore bodies in the areas leased to mines may be large but it is inevitable that they will be exhausted at some time in the future; rather than passively wait for this event, owners of operating mines press on with exploration outside the boundaries of their leases, and in this activity they are joined by exploration companies. In Tasmania, there has been concentration on relatively small areas where geological, geochemical and geophysical surveys have indicated favourable conditions for the occurrence of mineral deposits.

Exploration Areas and Operators

The area of the State is 26,383 square miles but the Mines Department in 1967 reported that it had issued exploration and special prospectors' licences covering an area of 99,624 square miles. This seeming contradiction disappears when account is taken of off-shore areas. The regions of land investigation are principally in the west and north-west of the State whilst the off-shore regions are off the west, north-west, south and north-east coasts; oil exploration to the limits of the continental shelf is included among the off-shore activities.

Land Exploration is being undertaken by: Aberfoyle Tin N.L.; Cleveland Tin N.L.; Comstaff Pty Ltd; Electrolytic Zinc Company of Australasia Ltd; Industrial and Mining Investigations Pty Ltd; King Island Scheelite (1947) Ltd; Mt Costigan Mines Ltd; Mt Lyell Mining and Railway Company Pty Ltd; Pickands Mather and Company; Planet Mining Company Pty Ltd; Quest Exploration Pty Ltd; Renison Ltd; Storeys Creek Tin Mining Company N.L.; and Utah Development Company. *Off-shore mineral investigations* are being carried out by: Ocean Mining A.G.; Planet Mining Company Pty Ltd; and the Electrolytic Zinc Company of Australasia Ltd. Those licensed for *oil search* include: Esso Exploration Australia Inc; Magellan Petroleum Southern Pty Ltd; the Electrolytic Zinc Company of Australasia Ltd; and Hematite Petroleum Pty Ltd, a subsidiary of The Broken Hill Pty Company Ltd.

Finance

Exploration expenditure outside existing mining leases is forecast at \$1.5m for 1968. Since large-scale exploration became a feature of mining in Tasmania during the past ten to fifteen years, possibly \$12m have been spent in the search for new mineral deposits.

Role of Mines Department

The Department of Mines has continued regional investigations and economic, hydrological and engineering geological work as part of its policy of investigation and exploration of Tasmania's mineral resources.

One Mines Department activity in 1967 was concerned with the old Tasmania Gold Mine where boring revealed three intersections of the ore-body, suggesting possible profitable recovery; tenders were invited from interested companies to continue the exploration and to exploit the deposits but no tenders were received. Other Departmental work includes: testing alluvial tin deposits in the north-east; investigating gold reefs at Alberton; assessing underground water resources in the Longford-Cressy area, coal deposits in the Fingal Valley and potential tin lodes at Waratah on the Blue Tier.

The data obtained by the Department are published in maps, bulletins and technical reports which mining and exploration companies are free to examine or acquire; these companies also make use of the ore-dressing services and assaying facilities provided by the Department's Launceston laboratories. Finally, some credit is due to the Department for the decision by private operators to establish the Savage River iron ore industry and the Mt Cleveland tin mining operation; its technical services in the fields of geology, mining engineering and metallurgy played an important role in these two areas.

Major Developments

Major mining developments in the last two years include: (i) establishment of the iron ore pellet industry; (ii) development of productive mining at the Cleveland tin mine; (iii) installation of larger capacity plant at the Renison tin mine; (iv) re-establishment of underground mining by the Mt Lyell Company; (v) the sinking of a new shaft at the Electrolytic Zinc Company's Rosebery mine; (vi) the development of beach sand mining on King Island.

STATISTICS OF MINERAL PRODUCTION

Source of Data

Statistics relating to quantities of minerals produced (including assayed metallic content) are, in the main, obtained from the State Mines Department and are supplemented, where necessary, with data obtained from the annual census of mines and quarries conducted by the Bureau of Census and Statistics, and from the Commonwealth Bureau of Mineral Resources.

Metallic Minerals

The table that follows shows the quantity of metallic minerals produced in Tasmania for a five-year period. In general, the minerals are shown as concentrates except the item reading 'copper ore':

Metallic Minerals—Production

| Mineral | Unit | 1963 | 1964 | 1965 | 1966 | 1967 |
|----------------------------------|--------|--------|--------|--------|--------|--------|
| Copper Concentrate .. | tons | 55,405 | 49,463 | 48,740 | 55,981 | 55,600 |
| Copper Ore | tons | 10,394 | 10,215 | 8,262 | 11,112 | 8,422 |
| Copper Precipitate .. | tons | 22 | 51 | 13 | 66 | 90 |
| Gold (not in Concentrates) | ounces | 181 | 106 | 108 | 82 | 160 |
| Iron Oxide | tons | 4,221 | 6,808 | 3,524 | 2,797 | 7,866 |
| Lead Concentrate .. | tons | 16,321 | 14,853 | 13,565 | 14,462 | 13,766 |
| Lead-Copper Concentrate | tons | 9,309 | 10,214 | 10,424 | 12,083 | 12,227 |
| Pyrite Concentrate .. | tons | 19,463 | 46,166 | 46,912 | 61,006 | 59,714 |
| Tin Concentrate .. | tons | 1,435 | 1,438 | 1,493 | 1,510 | 2,352 |
| Tungsten Concentrates— | | | | | | |
| Scheelite Concentrate | tons | 958 | 1,016 | 1,150 | 1,307 | 1,200 |
| Wolfram Concentrate | tons | 394 | 380 | 487 | 497 | 435 |
| Zinc Concentrate .. | tons | 44,871 | 84,791 | 77,715 | 83,761 | 81,751 |

Assayed Content

In the following table, the various concentrates have been grouped to show their content in terms of individual metals. The contents stated are as determined by assay and include all pay metals and metals which are a refiner's prize; totals compiled on this basis contain no allowances for losses in smelting and refining and therefore, in general, exceed the quantities actually recoverable. The table refers exclusively to minerals mined in Tasmania and excludes minerals imported for smelting and refining:

Assayed Contents of Metallic Minerals Produced

| Mineral | 1963 | 1964 | 1965 | 1966 | 1967 |
|-------------------------------|--------|--------|--------|--------|--------|
| COPPER (Tons) | | | | | |
| Copper Concentrate | 14,919 | 13,158 | 13,376 | 14,831 | 15,243 |
| Copper Ore | 427 | 342 | 367 | 563 | 406 |
| Copper Precipitate | 6 | 20 | 4 | 15 | 20 |
| Lead Concentrate | 125 | 74 | 78 | 90 | 74 |
| Lead-Copper Concentrate | 1,090 | 1,018 | 1,085 | 1,196 | 1,250 |
| Zinc Concentrate | 238 | 267 | 258 | 310 | 270 |
| Total | 16,805 | 14,879 | 15,168 | 17,005 | 17,263 |
| GOLD (Fine Oz) | | | | | |
| Copper Concentrate | 10,171 | 7,714 | 8,180 | 8,706 | 8,970 |
| Copper Ore | 134 | 122 | 132 | 151 | 117 |
| Lead Concentrate | 4,335 | 3,939 | 3,166 | 3,339 | 2,475 |
| Lead-Copper Concentrate | 18,820 | 19,271 | 18,732 | 21,430 | 23,169 |
| Zinc Concentrate | 2,797 | 3,233 | 2,589 | 2,802 | 2,637 |
| Other Sources | 165 | 97 | 98 | 79 | 151 |
| Total | 36,422 | 34,376 | 32,897 | 36,507 | 37,519 |
| LEAD (Tons) | | | | | |
| Lead Concentrate | 9,557 | 8,689 | 7,966 | 8,447 | 8,098 |
| Lead-Copper Concentrate | 2,934 | 3,832 | 3,858 | 4,497 | 4,603 |
| Zinc Concentrate | 2,491 | 2,827 | 2,414 | 2,634 | 2,431 |
| Total | 14,982 | 15,348 | 14,238 | 15,578 | 15,132 |
| SILVER ('000 Fine Oz) | | | | | |
| Copper Concentrate | 60 | 53 | 50 | 60 | 72 |
| Copper Ore | 9 | 9 | 3 | 11 | 10 |
| Lead Concentrate | 461 | 398 | 344 | 369 | 344 |
| Lead-Copper Concentrate | 942 | 1,048 | 1,035 | 1,108 | 1,114 |
| Zinc Concentrate | 231 | 272 | 242 | 286 | 259 |
| Total | 1,703 | 1,780 | 1,674 | 1,834 | 1,799 |
| SULPHUR (Tons) | | | | | |
| Lead Concentrate | 3,360 | 3,053 | 2,768 | 2,924 | 2,790 |
| Lead-Copper Concentrate | 2,624 | 2,649 | 2,774 | 3,160 | 3,081 |
| Pyrite Concentrate | 9,537 | 22,437 | 22,893 | 29,344 | 28,827 |
| Zinc Concentrate | 26,797 | 27,965 | 25,539 | 27,368 | 26,785 |
| Total | 42,318 | 56,104 | 53,974 | 62,796 | 61,483 |

Assayed Contents of Metallic Minerals Produced—continued

| Mineral | 1963 | 1964 | 1965 | 1966 | 1967 |
|----------------------------------|--------|--------|--------|--------|--------|
| ZINC (Tons) | | | | | |
| Lead Concentrate .. | 2,537 | 2,338 | 2,303 | 2,500 | 2,304 |
| Lead-Copper Concentrate .. | 1,081 | 1,221 | 1,202 | 1,391 | 1,342 |
| Zinc Concentrate .. | 44,871 | 46,596 | 42,805 | 45,960 | 45,211 |
| Total .. | 48,489 | 50,155 | 46,310 | 49,851 | 48,857 |
| TIN (Tons) | | | | | |
| Tin Concentrate | 1,005 | 990 | 1,027 | 1,031 | 1,529 |
| TUNGSTIC OXIDE (WO_3) (Tons) | | | | | |
| Scheelite Concentrate | 675 | 717 | 822 | 941 | 863 |
| Wolfram Concentrate | 285 | 276 | 355 | 365 | 320 |
| Total | 960 | 993 | 1,177 | 1,306 | 1,183 |
| CADMIUM (Tons) | | | | | |
| Zinc Concentrate | 74 | 77 | 70 | 75 | 73 |
| MANGANESE (Tons) | | | | | |
| Zinc Concentrate | 258 | 243 | 233 | 254 | 243 |

Fuel Minerals (Coal)

The only fuel mineral mined in Tasmania is coal and details of production are shown for a five-year period:

**Production of Coal in Tasmania
('000 Tons)**

| Description | 1963 | 1964 | 1965 | 1966 | 1967 |
|-----------------------|------|------|------|------|------|
| Coal, Black— | | | | | |
| Semi-anthracite | 2 | 2 | 2 | 2 | 2 |
| Bituminous | 205 | 149 | 100 | 80 | 75 |
| Total | 207 | 151 | 102 | 83 | 77 |

As indicated in the historical section of this chapter, imported fuel oils are tending to replace coal in a number of applications, chiefly industrial, and the decline in production of coal is due to the resulting fall in demand.

Non-Metallic (Excluding Fuel) Minerals

The quarrying of limestone is the earliest recorded activity in the field of non-metallic mineral mining in the State, burnt lime being sought as a base for building mortar. (The extensive shell deposits on the shores of Pitt Water near Sorell were another lime source used by the colonists in the making of mortar.) Production has gradually increased, there being a steady demand for limestone in the making of cement, in various chemical and metallurgical

processes and in the manufacture of calcium carbide; limestone also is used as a source of agricultural lime. Large exports of limestone were made in the period 1918-1947, when B.H.P. Co. Ltd operated quarries at Melrose on the north-west coast, for material to use as a flux in metallurgical processes carried out at their Newcastle iron and steel plant.

The next table shows the Tasmanian production of non-metallic minerals for a five-year period:

**Non-Metallic (Excluding Fuel) Minerals Production
(Tons)**

| Mineral | 1963 | 1964 | 1965 | 1966 | 1967 |
|----------------------|---------|---------|---------|---------|---------|
| Clays— | | | | | |
| Brick and Shale .. . | 146,885 | 170,496 | 185,623 | 165,546 | 153,574 |
| Kaolin .. . | 1,875 | 2,400 | .. | .. | .. |
| Other .. . | 24,229 | 31,488 | 36,070 | 72,875 | 42,208 |
| Dolomite .. . | 2,623 | 923 | 1,145 | 2,606 | 2,143 |
| Limestone (a) .. . | 354,465 | 351,518 | 338,414 | 344,734 | 348,449 |
| Ochre .. . | 51 | 69 | 40 | 65 | 97 |
| Pebbles .. . | 518 | 727 | 920 | 895 | 1,237 |
| Silica (b) .. . | 2,641 | 13,606 | 10,393 | 5,417 | 13,016 |

(a) Excludes quantities used directly as a building or road material.

(b) For glass, chemical, etc. manufacturing.

Construction Materials

In addition to the types of mining and quarrying previously described, there is the quarrying of construction materials (for buildings, roads, etc.) such as crushed and broken stone, gravel, sand, etc. This type of activity also is taken into account when placing a value on the output from mines and quarries, measuring their level of employment, etc.

Mining Industry Statistics

In the earlier sections of this chapter, the data on mining and quarrying have been confined to physical production and metallic content by assay, but other measures such as the level of employment, values of output, etc. are also available. A definition of the field of activity classified as 'mining and quarrying' appears as an introduction to the 'Mining' section of this chapter.

The following table gives details of employment in mines and quarries for a five-year period:

Employment in Mines and Quarries (a)

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|------------------------------|-------|-------|-------|-------|-------|
| Number of Mines and Quarries | 63 | 42 | 46 | 51 | 42 |
| Number Employed (b)— | | | | | |
| Working Proprietors .. | 23 | 16 | 20 | 12 | 6 |
| Salaried Employees— | | | | | |
| Above ground .. | 330 | 288 | 330 | 469 | 614 |
| Below ground .. | 36 | 75 | 60 | 77 | 79 |
| Wage Earners— | | | | | |
| Above ground .. | 1,586 | 1,449 | 1,479 | 1,693 | 1,876 |
| Below ground .. | 667 | 683 | 685 | 676 | 727 |
| Total .. . | 2,642 | 2,511 | 2,574 | 2,927 | 3,302 |

(a) Mines and quarries employing four or more persons.

(b) On last full working day of year shown.

Values of Output and Production

Value of Output is the selling value at the mine or quarry (i.e. exclusive of transport costs from mine or quarry to the point of sale). Value added by reduction of ores, concentrates, etc. to metals is excluded.

Value of Production is the selling value at the mine or quarry *less* the cost of power, fuel and light and the cost of certain materials and stores such as timber, explosives, etc. No allowance is made for depreciation or costs of maintenance.

The next table gives details of value of output, value of production and costs data for mines and quarries employing four or more persons:

Mines and Quarries (a)—Value of Output; Value of Production; Costs (\$'000)

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|--------|--------|--------|--------|--------|
| Value of Output .. . | 19,763 | 24,109 | 27,929 | 33,569 | 33,614 |
| <i>Less Cost of Power, Fuel and Light used .. .</i> | 789 | 786 | 785 | 844 | 1,069 |
| <i>Less Other Costs (mainly materials) .. .</i> | 4,984 | 5,965 | 7,801 | 7,791 | 8,308 |
| Value of Production (b) .. . | 13,990 | 17,358 | 19,343 | 24,933 | 24,238 |
| Salaries and Wages Paid (c)— | | | | | |
| Salaries .. . | 981 | 1,264 | 1,305 | 1,832 | 2,723 |
| Wages (d) .. . | 6,515 | 6,819 | 7,604 | 8,045 | 9,126 |
| Total Salaries and Wages .. . | 7,496 | 8,083 | 8,909 | 9,877 | 11,849 |

(a) Mines and quarries employing four or more persons.

(b) The cost of labour is *not* deducted in determining the value of production.

(c) Exclusive of drawings by working proprietors.

(d) Net amount after deducting value of explosives sold to own employees.

The previous tables on employment, output, etc. have been restricted to data obtained from mines and quarries employing four or more hands, this size level providing a basis for uniform mining statistics in all Australian States. However, the annual mining census in Tasmania seeks information from all engaged in mining and quarrying and includes operations with less than four persons employed. The following table shows the value of output for all mining and quarrying operations and also the contribution of specific types of activity:

All Mines and Quarries (a)—Value of Output (\$'000)

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|--|--------|--------|--------|--------|--------|
| Metal Mining .. . | 16,915 | 21,600 | 25,349 | 30,187 | 31,102 |
| Fuel Mining .. . | 842 | 649 | 430 | 362 | 322 |
| Non-metal (excluding Fuel) Mining (b) .. . | 788 | 864 | 744 | 732 | 611 |
| Total Mining .. . | 18,545 | 23,113 | 26,523 | 31,281 | 32,035 |
| Construction Material Quarrying | 1,757 | 1,935 | 2,475 | 3,345 | 2,652 |
| Total Mining & Quarrying | 20,302 | 25,048 | 28,998 | 34,626 | 34,688 |

(a) Includes output of mines and quarries employing less than four persons.

(b) Includes clays, dolomite, silica, limestone, etc.

Smelting and Refining of Metals

The value of output of mining and quarrying is defined as the selling value of the product at the mine or quarry, (e.g. in metal mining, usually the selling value of specific concentrates at the mine). Earlier, reference was made to the fact that Tasmanian manufacturing industry includes the extraction and refining of metals, not only from locally produced ores and concentrates, but also from those that have been imported; in actual fact, extraction and refining in Tasmania employ more persons than mining and result in greater values, both of output and of production. The following table is compiled from factory statistics to illustrate this point:

**Non-Mining Activity—Extracting and Refining Metals
Factory Class IV, Sub-class 5—Values of Output, Production, etc.**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------------|---------|---------|---------|---------|---------|
| Factories .. (no.) | 4 | 4 | 4 | 4 | 4 |
| Average Workers (a) .. (no.) | 3,413 | 3,444 | 3,394 | 3,404 | 3,565 |
| Value of Output .. (\$'000) | 59,020 | 66,238 | 81,336 | 83,049 | 91,473 |
| Value of Production (b) .. (\$'000) | 23,699 | 24,065 | 27,185 | 28,792 | 36,230 |

(a) Average whole year, including working proprietors.

(b) Value of output less recorded costs of manufacture, other than labour.

In the previous table, the principal metals included are: copper (from local ores), zinc and cadmium (from local and imported ores), aluminium (from imported bauxite) and ferro-manganese alloy (from imported ores).

The value of production in the factory table does not duplicate values already recorded in the mining sector since the cost of the basic raw materials—ores or concentrates—is one of the recorded costs of manufacture deducted from the value of output.

The next table gives details of the production of zinc and copper by refinery processes:

**Non-Mining Activity—Production of Zinc and Copper
(Tons)**

| Year | Refined Zinc | Copper (a) | Year | Refined Zinc | Copper (a) |
|------------|--------------|------------|------------|--------------|------------|
| 1961-62 .. | 129,069 | 11,812 | 1964-65 .. | 138,779 | 12,125 |
| 1962-63 .. | 136,205 | 11,694 | 1965-66 .. | 143,911 | 13,912 |
| 1963-64 .. | 138,610 | 11,790 | 1966-67 .. | 143,917 | 14,627 |

(a) Refined copper to 1964-65; blister copper from 1965-66. In October 1965, the Mt Lyell refinery was closed down and the blister copper was thereafter shipped to Port Kembla (N.S.W.) for refining.

Aluminium Production

The refinery for the production of alumina and refined aluminium is situated at Bell Bay on the River Tamar. The choice of Tasmania was determined by the availability of large supplies of relatively cheap hydro-electric power. Production of alumina commenced in February 1955, and of refined aluminium in September 1955. Published statements indicate that the capacity of the plant, in terms of primary aluminium, was lifted to 35,000 tons in 1962 and to 52,000 tons in 1963; another published statement described a plan to lift annual capacity to 72,000 tons by 1968.

Assistance Provided by Mines Department

The Department of Mines provides financial assistance to mining lessees for the purchase of plant and machinery, for sinking, repairing or de-watering of shafts, for construction of dams and water races, for testing and proving a deposit of any mining product, for developmental work, and for diamond and other types of drilling. The Department has available for hire percussion and diamond drills for exploration, as well as complete plant for small shaft sinking and tunnelling. Other assistance is rendered to the industry in the form of geological and engineering advice, through ore-dressing research into metallurgical discoveries, and the selection and design of treatment plant.

FISHERIES

Description of Main Fish Varieties

This section is devoted to a discussion of the important species in the Tasmanian fishery. These species are not all scale fish but include elasmobranchs (sharks), molluscs (scallops, oysters, abalone), and crustaceans (crayfish). The Tasmanian fishery involves about 1,200 licensed fishermen in 600 vessels, and in 1966-67 harvested approximately 6,300 tons of fish, molluscs and crustaceans. The catch is composed of about 40 types of which six—crayfish, shark, barracouta, abalone, scallop and salmon—are of major importance (about 90 per cent of the catch). One, the tuna, may have great potential.

The State Government exercises control over the taking of fish through the Fisheries Division (saltwater fisheries) and the Inland Fisheries Commission (freshwater fisheries). Each of the types discussed is numbered according to the code prepared by the Fisheries Division of the Department of Primary Industry on behalf of the Commonwealth/State Fisheries Conference.

The descriptions of the types of fish include their common name and scientific name.

Eels (*Anguilla australis occidentalis*-035)

The commercial freshwater fishery for the short finned eel was established in 1963 and the catch for 1966-67 was 71,000 lb. It is likely that the eel fishery will expand to satisfy local and overseas markets. This activity is regulated by the Inland Fisheries Commission.

Whitebait (*Lovettia sealii*-076)

The catching of whitebait comes under the control of the Inland Fisheries Commission. Commercial fishing began during 1941 and 1942 and reached a peak in 1947 when over a million pounds were caught. The canning of whitebait ceased in the early 1950s and the annual catch declined to a few thousand pounds; however, in 1966-67, it had increased to 95,000 lb.

Flounder and Sole (*Lophonectes gallus*, *Paraplagusia unicolor*, *Pseudorhombus tenuirastrum*; all species-151)

The three species in the local catch are the Crested Flounder (*Lophonectes gallus*), the Deepwater Flounder (*Pseudorhombus tenuirastrum*) and the Lemon-tongued Sole (*Paraplagusia unicolor*). The catch, while not large in absolute terms, has been rapidly increasing over the last five years.

Cod (*Physiculus barbatus*-201)

The family Gadidae, the true cods, is represented in Tasmania by the Southern Rock Cod (*Physiculus barbatus*). Although this group includes the most important commercial fish after the herring in the Northern Hemisphere, it is not a commercially important fish in Tasmania.

Tuna and Mackerel (*Thunnus thynnus maccoyii*-301; *Thunnus alalunga germe*-303; *Katsuwonus pelamis*-315; *Auxis thazard*)

There are four major species of tuna found in Tasmanian waters. They are:

- (i) Southern Blue Fin Tuna (*Thunnus thynnus maccoyii*)—a large chunky fish tapering sharply towards the tail. This tuna may reach nine to 10 feet in length and 1,500 pounds and quite commonly ranges from 500-800 pounds in Australian waters. However, the average commercial fish is about 50 pounds.
- (ii) Albacore (*Thunnus alalunga germe*)—a chunky robust fish tapering sharply to the tail. Size—up to three and a half feet and 60 pounds but averaging 5 to 15 pounds.
- (iii) Striped Tuna or Skipjack (*Katsuwonus pelamis*)—plump, robust, tapering sharply to the tail behind the second dorsal and anal fins. Size—may grow to 25 inches and weigh 12 pounds, but normally five to 10 pounds.
- (iv) Frigate Mackerel or Leadennall (*Auxis thazard*)—elongated and slightly compressed body. The frigate mackerel is the smallest of the tuna group of fishes and seldom grows larger than three pounds.

A large-scale tuna fishery for Tasmania may be possible in the future but its development has been slow due to the large capital investment involved. The method of fishing in Australia is usually by polling or trolling, using artificial lures when they are effective, or live bait of pilchards, etc. The whole of the catch is usually canned.

Barracouta (Snoek) (*Leionura atun*-335)

The barracouta (sometimes referred to as 'couta) belong to a group of fishes which includes Snake Mackerels and should not be confused with the savage Barracuda (*Agriposphryna barracuda*) of the West Indies. The barracouta can grow to four feet six inches and 10 pounds but averages two and a half to three feet and three to five pounds.

The fish is of major importance to the Tasmanian fishery and occurs in large numbers but is subject to pronounced seasonal fluctuations. It is a fish of good edible quality. Commercial fishermen use mainly 'jigs' or trolling. (A jig is a rod attached to a short line or chain with a barbless hook; when the fish strikes it is jerked on to a shute, frees itself, and slides into the well.)

Mullet (*Mugil cephalus*-351; *Aldrichetta forsteri*-370).

In Tasmania, there are two species of mullet; the Sea Mullet (*Mugil cephalus*) and the Yellow Eye Mullet (*Aldrichetta forsteri*). The mullet is a very common fish in Australian waters but is not important commercially in Tasmania due to its rather variable edible qualities. Most fish are captured commercially by beach seining; anglers find the yellow eye mullet relatively easy to catch but not the sea mullet.

Trevally (*Seriolella brama*-453)

When freshly caught, the fish is of excellent quality and edible standard, its flesh white, tender and delicately flavoured. However it does not keep well and should be gutted soon after capture. It is commonly caught by gill or mesh nets set close inshore amongst kelp; it can be caught by line.

Salmon (*Arripis trutta*-490)

The Australian salmon is not a true salmon and is completely unrelated to the salmon of the Northern Hemisphere. It probably received this name

from the early colonists who confused the fish with the true salmon because of a superficial resemblance and its fighting qualities when hooked. It is commonly referred to as the native, colonial or black back salmon. The fish is a major commercial species for Tasmanian fishermen. Most salmon are captured commercially by beach seine nets. For the angler, it is one of the finest small-game fish in Australian waters.

Trumpeter (*Latridopsis forsteri*-536, *Latris lineatus*-535)

This fish is represented in Tasmania by the Bastard or Silver Trumpeter (or simply Trumpeter)—*Latridopsis forsteri*, and the Striped Trumpeter—*Latris lineatus*. Both are found near offshore reefs but the striped trumpeter is now mostly restricted to deep waters. The silver trumpeter is caught in gill nets and the striped by handlines. The striped trumpeter is highly prized and is recognised as one of the best two or three table fish in Australia.

Flathead (*Neoplatycephalus fuscus*-615, *N. richardsoni*-616

N. speculator-617, *Trudis bassensis*-621, *Levipora laevigata*-625)

The Tasmanian species of flathead of commercial value are:

- (i) The Rock Flathead (*Levipora laevigata*)—may grow to 15 inches in length.
- (ii) The Sand Flathead (*Trudis bassensis*)—grows to 25 inches and two and three-quarter pounds, but usually averages 16 to 17 inches and about one and a half pounds. This is the most important commercial species.
- (iii) The Dusky or Mud Flathead (*Neoplatycephalus fuscus*)—may reach four feet and 28 pounds.
- (iv) The Tiger Flathead (*Neoplatycephalus richardsoni*)—similar in size to the sand flathead.
- (v) The King or Deep Sea Flathead (*Neoplatycephalus speculator*)—very closely related to the tiger flathead.

The flathead, in general, is an excellent edible fish with white, tender and well-flavoured flesh. The fish is a bottom-dweller but although it can be caught by trawlers, the Tasmanian industry is based on hand-lines and the fish filleted, frozen and exported to the continental States.

Shark (*Mustelus antarcticus*-651; *Galeorhinus australis*-655)

Tasmania's shark fishery is confined in the main to two fish: the School or Snapper Shark (*Galeorhinus australis*) and the Gummy Shark (*Mustelus antarcticus*). The school shark is reputed to grow to six feet and 170 pounds but there is no authentic record of a fish longer than five feet eight inches. The gummy shark may grow to a length of five to six feet. Although sharks have been fished commercially in Australia for many years, the Tasmanian industry did not begin until the early years of World War II. It has now become established as one of the most important units of the Tasmanian fishery. The fish are caught by the 'long-line' method. Each line consists of a number of 'fleets', each 'fleet' carrying 100 to 200 hooks. The total number of hooks may go as high as 1,800. Each boat carries a number of lines which can be set individually or linked together.

Unlike the scale and bony fish and some other sharks, these two varieties bear their young alive and do not lay eggs. Mating usually takes place from May to June with the young 'pups' born about December. The average litter is 28.

Garfish (*Hemiramphus melanochir*-712)

The Australian garfish belong to the family Hemiramphidae, fish of this family being called 'half-beaks' in the U.S.A. The garfish may reach a length of 18 inches, but usually average about 12 inches. Fishing is concentrated from March to April, with most fish being caught in seine nets from sheltered ocean beaches.

Rainbow Trout (*Salmo gairdneri*-775)

In 1964, the first commercial trout farm was licensed and rainbow trout are raised in holding ponds using water from the Brid River (at Bridport, on Bass Strait). The fish are fed dry pelletised food with raw protein supplement until they are large enough for killing. There are, of course, rainbow and brown trout in Tasmanian lakes and rivers (introduced as exotic species) but these may only be fished for by sportsmen with a licence at times and places regulated by the Inland Fisheries Commission.

Crayfish (*Jasus lalandei*-780)

The crayfish is by far the most important unit in the Tasmanian fishery in terms of monetary return.

The crayfish are caught in traps which are hemispherical, mainly made of cane and bush sticks and called pots. The pots are baited with fish or flesh and 'shot' from dinghies or directly from the boat. The boats range from 20 feet to 70 feet long, most having diesel engines and auxiliary sails. They operate all round the Tasmanian coast, including the Bass Strait Islands, as seasons permit, and the pots are set in from one to 50 fathoms of water.

The crayfish is boiled and either sold locally or exported to New South Wales and Victoria, or overseas to the United States. The whole fish is usually sold in Australia but only the tails, which contain most of the edible meat, are sent to the U.S.A. in uncooked, frozen form.

Oyster (*Ostrea angasi*-831; *Crassostrea gigas*-828)

There are two types of oyster found in Tasmania—the Mud Oyster, *Ostrea angasi*, which is a native of the State, and the Japanese (or Pacific Oyster), *Crassostrea gigas*, which was first introduced into the State in 1947. The taking of oysters is now on a very small scale and this shellfish has little commercial significance in Tasmania.

Scallop (*Pecten meridionalis*-835; *Equichlamys bifrons*-836;
Mimachlamys asperrimus-837)

The Tasmanian scallop industry is based on the Commercial Scallop, *Pecten meridionalis*. There are two other species found, the Queen Scallop, *Equichlamys bifrons*, and the Doughboy Scallop, *Mimachlamys asperrimus*.

The fishery has shown three major phases:

1904-1918 An initial period in which fishing (by dredging) was confined to the Derwent estuary.

1918-1960 A period of varying but generally heavy commercial exploitation of beds in the D'Entrecasteaux Channel. This was the time when the fishery developed into an important primary industry.

1960-1967 The development of the oceanic beds on the east and north-east coasts in deeper water and the decline of the D'Entrecasteaux Channel beds. During the latter part of this period, there has been a drastic fall off in the catch.

Abalone (*Notohaliotis ruber*-845; *Schismotis laevigata*-846)

A new industry based principally on the Black Lip Abalone began late in 1964 and has assumed a most important role in the Tasmanian fishery. Details are given in the following section.

The Abalone Fishery*Introduction*

Four years ago, Tasmania's fishing industry had no place for abalone; a few amateurs occasionally took 'mutton fish' for their own consumption but commercially the stocks of the Tasmanian and mainland coasts were unexploited and ignored. In 1966-67, the value of the abalone catch was \$641,660 and the previously neglected snail had moved into second place of importance after crayfish in the Tasmanian fishery. Tasmanians catch about half the abalone in the Australian fishery.

Description and Distribution

Abalone are large marine snails belonging to the family Haliotidae. They are found below low water mark and beneath the sea on rocks, often under ledges and fissures; a 'foot' protruding from the shell clings to the rock by suction and can actually cause a shallow depression to form in some surfaces. The animal feeds on algae, generally broad-leaved varieties such as *Macrocystis*, moves about at night and probably returns daily to the same home site.

In the Australian States, there are at least 15 species but only four are exploited commercially. The four commercial species, and their distribution are: *Notohaliotis ruber* (red ear shell or black lip abalone): N.S.W., Victoria, Tasmania, S.A.;

Schismotis laevigata (green lip abalone or 'muttonfish'): Victoria, Tasmania, S.A.;

Notohaliotis conicopora: Victoria, Tasmania, S.A.;
Marinauris roei: W.A.

The green lip makes up about five per cent of the catch in Tasmania and Victoria; the most important commercial species by far is the black lip (*Notohaliotis ruber*) which grows to a maximum diameter of 7.5 inches and produces up to one pound of cleaned flesh. Preliminary research shows the abalone is a long lived species and grows slowly, reaching a diameter of five inches in five to six years. Further work is necessary to find the relationship between growth rate and water conditions or locality.

Fishing Areas in Tasmania

The main abalone fishing grounds extend from South West Cape to Maria Island, but it is caught along other sections of the east and west coasts; the west coast has considerable potential but exploitation is greatly restricted by the large seas breaking on a shoreline with little natural shelter. Where diving is possible, particularly in the northern section of the west coast, very dense concentrations have been found. The islands in Bass Strait probably also have considerable potential but exploitation has been limited by unfavourable weather conditions and a lack of processing facilities.

Fishing Methods

The abalone fishermen are all skin divers; the marine snails are under water and each has to be handled individually, curved steel or aluminium bars called abalone irons being used to prise them from the rocks. The divers

may use hooka gear, scuba equipment or snorkels; of these, the hooka gear is most widely used, compressed air being supplied to the diver through plastic or rubber hose connected to a compressor on a boat or on shore. If using scuba gear, the diver carries his air in one or two tanks strapped to his back. The snorkel obviously is useful only in very shallow water, since the diver's air supply has to be carried in his lungs.

When the fishing grounds are along the water's edge or close to land, divers may operate from the shore but this depends on stocks being relatively unexploited; divers now operate mainly from boats. Where the water is protected and the shore can be reached by road, the divers often use a lightweight boat, powered by an outboard and brought to the launching site on a vehicle or trailer. However, to exploit more distant grounds and carry bigger loads, Tasmanian divers are now turning to hulls with greater displacement, in the main established fishing boats; such vessels usually carry a compressor with air supply for two or more divers and they may stay away from port for two or more days.

Two new types of vessel have appeared: (i) a version of the W.A. 'scooter boat', a 30 foot craft with a planing hull; it can travel at high speed to the fishing grounds but provides also ample deck space for working and carrying bagged abalone; (ii) a converted river steamer; apart from load carrying, it provides divers with ample living space and facilities for drying and storing their equipment. By regulation, *all abalone must be landed alive in the shell at a processing factory and processing at sea is prohibited.*

Processing and Marketing

Only the 'foot' muscle and mantle are marketed and these are cut from the shell with a special tool shaped like a spatula or putty knife. The remaining viscera are left in the shell which is usually dumped. Recent trials of crayfish bait made from waste tuna and waste abalone may help develop a valuable sideline; other possible use is to convert shell and waste flesh into poultry food, or perhaps make a pig food from the waste flesh.

Shucking is generally carried out in the processing factory and most divers sell their catch 'in the shell', i.e. unprocessed. During 1967, the price for live abalone fluctuated between 12 and 14 cents per lb (the 1966-67 Australian average processed export price, i.e. canned or frozen, was 54 cents per lb). After shucking, the abalone may be trimmed further and the mouth removed; extra trimming is usually done at the buyer's request and its extent varies with the particular market. The coloured (usually black) mucous film over the mantle and edge of the 'foot' is superficially cleaned by brushing or tumbling in water.

The bulk-cleaned fish is either frozen or canned for export but there are now two additional outlet methods: (i) *fresh frozen abalone steaks*; the fish is completely cleaned and trimmed, then sliced in two and the halves are pounded with a wood mallet until they are tender; two Tasmanian factories are producing these steaks for markets on the west coast of U.S.A. but an Australian demand is likely to grow; (ii) *live abalone*; the fish is airfreighted to Japan in live condition but the method is only in the experimental stages, the chief problem being survival on the trip. In 1965-66, Australia exported overseas 1.20m lb of processed abalone; in 1966-67, 2.94m lb; in 1965-66, nearly 60 per cent exported was canned and the canned proportion rose to 76 per cent in 1966-67. Tasmania's production of abalone has been (ex-shell weight): 1965-66, 0.53m lb; 1966-67, 1.47m lb. Most of the abalone catch, both in Tasmania and in other Australian States, is exported and only a small proportion is consumed locally.

Regulations and Fishing Effort

Tasmanian regulations require that abalone divers must be principally fully engaged in fishing and derive a substantial part of their livelihood from the taking of this fish; a maximum of 260 licences can be issued in any one year. Abalone taken must exceed five inches in diameter and be delivered to recognised processing factories for shucking; this assists in enforcing the size limit and allows checks to make sure the produce is delivered in a fresh and wholesome condition.

In 1967, 247 divers spent 38,120 hours in the water fishing for abalone, full time divers going underwater on an average of 10 to 20 days each month. The main check is imposed by bad weather, and to some extent by water temperature and underwater visibility. The best divers may take a ton of abalone (in the shell) in a single day in good areas, but the average is much less.

Future Prospects

Production at present is limited by difficulties of access to fishing grounds. The long-term expansion of this fishery is obviously related to the extent of the resource and its rate of recovery after fishing; the limitation imposed by these two factors is not yet known.

At present, abalone diving is carried out along a small portion of the southern Australian coastline, mainly close to fish depots. Three ways of increasing the catch would be:

- (i) construction of roads in areas where good abalone stocks are close to shore; this would give access to trailer-carried boats;
- (ii) the use of heavier, faster boats like the scooter boats of W.A. and California; this would give divers good access to distant beds;
- (iii) use of a mother ship with a fleet of tenders in distant places inaccessible from land, e.g. the south-west and west coast of Tasmania.

FISHERIES STATISTICS**Source of Data and Method of Presentation**

Statistics presented in this section have been supplied, in the main, by the Fisheries Division of the State Department of Agriculture. In the preparation of fisheries production statistics, the quantities are generally in terms of the form in which the catch is taken from the water. For example, the statistics of fish production are in terms of 'estimated live weight' which is calculated from landed weights by using conversion factors for the various species. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on a 'whole weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis.

The actual edible yield varies, depending on types of fish, and methods of preparation. Barracouta yield about 51 per cent of liveweight when filleted, and shark about 60 per cent when headed and gutted. The edible flesh in molluscs represents only a small portion of the in-shell weight. The conversion factor for scallops is $\frac{1}{3}$, and for abalone $\frac{1}{3}$, e.g. 300 lb of abalone in-shell yield approximately 100 lb of flesh.

The catch is generally defined as that landed in Tasmanian ports, regardless of whether it is caught in Tasmanian waters or not, or whether it is caught by Tasmanian fishermen or not. A quantity of sharks and crayfish taken by

Victoria-based fishermen in Tasmanian waters, but landed in Victoria, is included in the Victorian catch and excluded from Tasmanian figures, the logic being that the catch influences the Victorian economy.

Details of production refer only to recorded commercial production. In view of the importance of amateur fishermen in certain types of fishing, details shown cannot be taken as representing the whole catch. In addition, it is likely that the figures shown underestimate, to some extent, the full commercial catch since no information is available on fish taken for sale by persons not licensed as professional fishermen.

Persons Engaged in Fisheries

In the following table, which gives details collected in the Censuses of 1961 and 1966 (at 30 June), the numbers of persons whose industry was classified to 'fishing and whaling' are shown together with the numbers engaged in all primary industries and in the total work force; Australian and Tasmanian figures are compared:

**Australia and Tasmania—Persons Engaged in Fisheries
Population Censuses, 1961 and 1966**

| Particulars | Australia | | Tasmania | |
|---|-----------|---------|----------|-------|
| | 1961 | 1966 | 1961 | 1966 |
| Persons engaged in— | | | | |
| Fishing and whaling ('000) | 8.3 | 8.0 | 0.6 | 0.6 |
| All primary industries ('000) | 513.3 | 456.7 | 20.8 | 17.2 |
| Total work force ('000) | 4,225.1 | 4,856.4 | 130.9 | 147.3 |
| Persons engaged in fishing and whaling as a proportion of— | | | | |
| All primary industries (per cent) | 1.6 | 1.8 | 2.8 | 3.4 |
| Total work force (per cent) | 0.2 | 0.2 | 0.4 | 0.4 |

Employment, Boats and Equipment

The boats used for the estuarine fisheries are mostly small vessels, propelled by diesel or petrol motors of low power. The offshore vessels range in length from 30 feet to 100 feet and almost invariably are powered by diesel engines. Refrigeration of the catch at sea is becoming more common, the four main types being ice box, ice cooling, brine tanks and dry refrigeration; almost all boats have wells or deck tanks which serve to keep the catch alive, e.g. crayfish or abalone.

Equipment

In the Tasmanian fisheries, a wide range of equipment is used. The following table sets out the main types of fish, crustaceans and molluscs and the equipment most commonly used:

Fish Equipment Used in Tasmania

| Type of Fish | Equipment Used | Type of Fish | Equipment Used |
|----------------------|----------------|------------------|----------------|
| Silver Trumpeter .. | Gill net | Barracouta | Jig and Troll |
| Shark (edible) .. | Long-lines | Crayfish | Pots |
| Australian Salmon .. | Beach seine | Scallops | Dredge |

A feature of the Tasmanian fisheries is the use of dual, triple or even quadruple types of equipment from a single boat on the one voyage. Examples of possible combinations are as follows:

Dual—beach seine net and crayfish pot; crayfish pot and long line; jig and long line, etc.

Triple—crayfish pot, gill net and long line; crayfish pot, hand line and jig, etc.

Quadruple—beach seine net, crayfish pot, gill net and long line; crayfish pot, dredge, gill net and long line, etc.

Persons Engaged, Boats and Equipment

The following table shows details of persons and boats employed in the taking of fish, crustaceans and edible molluscs. The data are derived from boat registration records of the State Fisheries Division. The term 'number of crew' refers to the usual number of crew on registered fishing vessels and, lacks the precision of the concept 'average number employed' used in statistics of other production sectors. Many of the fishermen operate part-time only, and may normally follow other occupations:

Fisheries—Number and Value of Boats, Number of Crew, etc.

| Length of Boat (feet) | 1965 | | | 1966 | | |
|--------------------------|-----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|
| | Number of Boats | Value of Boats | Number of Crew | Number of Boats | Value of Boats | Number of Crew |
| | | | | | | |
| Under 20 .. | 163 | 109 | 250 | 126 | 108 | 189 |
| 20 and under 30 .. | 116 | 268 | 173 | 140 | 389 | 205 |
| 30 and under 40 .. | 138 | 839 | 266 | 151 | 958 | 288 |
| 40 and under 50 .. | 108 | 1,236 | 254 | 120 | 1,509 | 268 |
| 50 and under 60 .. | 56 | 1,067 | 155 | 63 | 1,316 | 174 |
| 60 and under 70 .. | 10 | 316 | 34 | 10 | 384 | 36 |
| 70 and under 85 .. | 2 | 160 | 7 | 4 | 194 | 14 |
| 85 and over .. | 3 | 230 | 15 | 4 | 381 | 26 |
| Total | 596 | 4,225 | 1,154 | 618 | 5,239 | 1,200 |

The next table indicates the high proportion of relatively new boats now operating in the fishing industry and analyses the 618 boats according to age:

Number of Boats Classified According to Length and Age, 1966

| Length of Boat (feet) | When Constructed | | | | | | |
|--------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|
| | Before 1930 | 1930 to 1939 | 1940 to 1949 | 1950 to 1954 | 1955 to 1959 | 1960 to 1964 | 1965 and later |
| Under 20 .. | 2 | 4 | 16 | 13 | 24 | 42 | 25 |
| 20 and under 30 .. | 5 | 8 | 39 | 33 | 20 | 25 | 10 |
| 30 and under 40 .. | 18 | 19 | 35 | 17 | 22 | 29 | 11 |
| 40 and under 50 .. | 22 | 9 | 29 | 7 | 14 | 20 | 19 |
| 50 and under 60 .. | 7 | 4 | 13 | 3 | 9 | 17 | 10 |
| 60 and under 70 .. | 1 | 1 | 3 | .. | 3 | 2 | .. |
| 70 and under 85 .. | 3 | .. | .. | .. | .. | 1 | .. |
| 85 and over | 2 | .. | 2 | .. | .. | .. | .. |
| Total | 60 | 45 | 137 | 73 | 92 | 136 | 75 |

Production

Fish Catch

The following table shows the production of the main types of fish caught in Tasmania for a five-year period. The fish types appear in the table without any further description to identify the particular species but a specification of the commoner types appears as an introduction to this section.

Fish—Production by Type
(^{'000 lb Estimated Live Weight}) (a)

| Type | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------|---------|---------|---------|---------|---------|
| Mullet | 12 | 18 | 152 | 34 | 32 |
| Tuna | 24 | 29 | 52 | 67 | 32 |
| Shark | 832 | 816 | 659 | 1,088 | 1,003 |
| Australian Salmon .. | 1,165 | 850 | 501 | 432 | 942 |
| Flathead | 45 | 43 | 69 | 74 | 119 |
| Barracouta | 1,130 | 1,409 | 2,018 | 3,003 | 2,286 |
| Whitebait | 12 | 21 | 41 | 71 | 95 |
| Cod | 18 | 9 | 18 | 20 | 15 |
| Flounder | 9 | 11 | 14 | 28 | 29 |
| Trevally | 35 | 55 | 24 | 21 | 9 |
| Trumpeter | 28 | 21 | 29 | 34 | 52 |
| Garfish | 138 | 129 | 44 | 46 | 13 |
| Other | 21 | 18 | 15 | 73 | 199 |
| Total | 3,469 | 3,429 | 3,637 | 4,989 | 4,826 |

(a) Estimated live weights are calculated from landed weights by conversion factors since quantities of fish are reported frequently in a gutted, headed and gutted, or otherwise reduced condition, (e.g. barracouta and shark).

Crustaceans and Molluscs

In terms of value, the most important item in the Tasmanian catch is crayfish and the next table shows details of production of this crustacean and also of molluscs:

Crustaceans and Molluscs—Production by Type

| Type | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| CRUSTACEANS (^{'000 lb Whole Weight}) | | | | | |
| Crayfish | 3,310 | 3,572 | 3,336 | 3,939 | 4,290 |
| MOLLUSCS (^{'000 lb In-shell Weight}) | | | | | |
| Oysters | 1 | 2 | 2,916 | 868 | 753 |
| Scallops | 5,871 | 4,260 | 496 | 1,600 | 4,407 |
| Abalone | .. | 72 | .. | .. | .. |
| Total | 5,872 | 4,334 | 3,412 | 2,468 | 5,160 |

Comparison with Other States

In 1966-67, Tasmania ranked third as a producer of crayfish, the two leading States being W.A. with 60 per cent of the Australian total and S.A. with 20 per cent; the Tasmanian catch was 14 per cent of the total.

The comparatively new Tasmanian abalone fishery in 1966-67 accounted for almost 41 per cent of Australian production of 10,809,000 pounds of abalone in the shell. Victoria and New South Wales ranked second and third with 31 per cent and 22 per cent respectively.

For many years, Tasmania was the only State of the Commonwealth with a commercial scallop fishery; in 1955-56 Tasmania was joined by Queensland, but continued to retain its dominant position in the industry. In 1963, however, Tasmanian fishermen started a Victorian fishery in beds known to exist in Port Phillip Bay and the new site, in its first year (1963-64), produced more than twice the Tasmanian fishery. Tasmanian production in 1966-67 was less than three per cent of the Australian total, the Victorian proportion being 96 per cent.

Catch Landed at Fishing Ports

Distribution of Fish Landed

The table that follows shows the proportion of fish and crayfish landed at Tasmanian fishing ports. The information relates to port of landing only, and not to the area in which catch was made.

**Proportion of Total Fish and Crayfish Landed at Each Port, 1966-67
(Per Cent)**

| Port | Fish | Crayfish | Port | Fish | Crayfish |
|-------------------------|------|----------|-----------------------|-------|----------|
| Derwent and Channel | | | Bass Strait & Islands | | |
| Dover .. | 0.4 | 6.6 | Bridport .. | 14.3 | 5.7 |
| Gordon .. | (a) | (a) | Currie .. | (a) | 2.7 |
| Hobart .. | 8.8 | 7.9 | Lady Barron .. | 0.1 | 8.6 |
| Kettering .. | 6.3 | 2.1 | Port Sorell .. | 10.8 | 0.5 |
| Margate .. | 10.5 | 5.8 | Smithton .. | (a) | 1.3 |
| Southport .. | 0.8 | 2.0 | Stanley .. | 9.1 | 9.3 |
| Woodbridge .. | (a) | 0.1 | 'Tamar' (b) .. | 9.7 | 0.2 |
| Total .. | 26.8 | 24.5 | Wynyard .. | 0.3 | (a) |
| | | | Total .. | 44.4 | 28.5 |
| East Coast & Peninsula— | | | | | |
| Bicheno .. | 4.1 | 6.6 | West Coast— | | |
| Coles Bay .. | 0.6 | 0.1 | Strahan .. | 2.4 | 9.7 |
| St Helens .. | 1.1 | 12.4 | | | |
| Triabunna .. | 5.1 | 9.0 | | | |
| Dunalley .. | 5.9 | 6.3 | | | |
| Port Arthur .. | 9.6 | 2.9 | | | |
| Total .. | 26.4 | 37.4 | Total Tasmania | 100.0 | 100.0 |

(a) Less than 0.05 per cent.

(b) Launceston, Beauty Point and other Tamar ports.

The next table shows the proportion of the total crayfish catch landed each month:

**Proportion of Crayfish Landed In Each Month
(Per Cent)**

| Month | 1966 | 1967 | Month | 1966 | 1967 |
|-------------|------|------|------------------|------|------|
| January .. | 15.5 | 15.9 | July .. | 5.8 | 5.9 |
| February .. | 10.7 | 12.9 | August .. | 4.8 | 4.5 |
| March .. | 7.0 | 8.1 | September (a) .. | 0.9 | 0.9 |
| April .. | 3.1 | 5.8 | October (a) .. | 0.8 | 0.4 |
| May .. | 1.9 | 2.3 | November .. | 26.9 | 22.1 |
| June .. | 3.4 | 4.2 | December .. | 19.1 | 16.9 |

(a) Closed season in most waters during these months.

Value of Production—Fishing

The table that follows gives details of gross and local values of edible fisheries products. The following definitions apply:

Gross Value of Production is the value placed on recorded production at the wholesale price realised at the principal markets.

Local Value (i.e. gross production valued at the place of production), is ascertained by deducting marketing costs from the gross value. Marketing costs include freight, cost of containers, commission, and other charges incidental thereto.

**Fisheries—Gross and Local Value of Production
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|
| Gross Value of Production— | | | | | |
| Fish (a) .. . | 324 | 312 | 353 | 491 | 512 |
| Crustaceans (Crayfish) .. . | 1,474 | 1,580 | 2,105 | 2,557 | 2,430 |
| Molluscs .. . | 456 | 311 | 229 | 252 | 714 |
| Total .. . | 2,254 | 2,203 | 2,686 | 3,300 | 3,656 |
| <i>Less Marketing Costs</i> .. . | 484 | 477 | 492 | 552 | 631 |
| Local Value of Production | 1,770 | 1,726 | 2,194 | 2,747 | 3,024 |

(a) Includes value of seaweed harvested for production of alginate. Separate figures are not available for publication.

In other production sectors, local value is further reduced by deducting the value of materials used to arrive at the net value of production. For the fishing sector, this is not possible since data on materials used in the course of production are not available. (Petrol and diesel fuel are examples of such materials.)

Marketing

In general terms, it can be said that production of fish, crustaceans and molluscs from the Tasmanian fisheries far exceeds the demand generated by the State's relatively small population; it follows, therefore, that the industry is dependent, in large measure, on its ability to find export markets, both interstate and overseas, and this raises the problem of preserving a perishable product. In the past, shark and barracouta, when caught in large quantities, had actually been sold to orchardists as manure simply because there was no other way of disposing of the glut. Cold storage facilities are now generally available and in addition, canneryes offer an alternative method of preservation, the principal cannery being located at Margate in the south. The problem of preservation has three aspects: (i) at sea; (ii) on shore; (iii) in transit to market. A survey made during 1966 indicated that approximately 123 (i.e. 20 per cent) of the 618 licensed fishing boats had refrigeration plant of various types. In addition, some catches, e.g. crayfish, can be kept alive in boats' wells. Cold storage facilities ashore serve to hold the catch before its despatch to interstate and overseas markets while actual exports are carried by air, by refrigerated trailer on the roll-on roll-off ferries and in the refrigeration chambers of conventional ships.

The following table shows the value of exports and imports of fishery products. The fact that Tasmania has an exportable surplus, yet nevertheless imports some fishery products, is chiefly due to differences in type; the imported varieties include canned sardines, anchovies, oysters, crabs, etc., together with frozen, salted or smoked varieties of European, New Zealand or South African origin.

**Fishery Products—Value of Exports and Imports
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------------|---------|---------|---------|---------|---------|
| EXPORTS | | | | | |
| Fish (a) —Overseas | 14 | 7 | 17 | . | 1 |
| Interstate | 538 | 363 | 233 | 408 | 486 |
| Crayfish —Overseas | 336 | 326 | 693 | 922 | 584 |
| Interstate | 778 | 684 | 597 | 1,235 | 1,103 |
| Molluscs—Overseas | .. | 63 | 159 | 101 | 214 |
| Interstate | 148 | 45 | 22 | 21 | 128 |
| All Types—Overseas | 350 | 396 | 869 | 1,023 | 799 |
| Interstate | 1,464 | 1,092 | 852 | 1,664 | 1,717 |
| Total | 1,814 | 1,488 | 1,721 | 2,687 | 2,516 |
| IMPORTS | | | | | |
| Fish— | | | | | |
| Fresh and Frozen—Overseas | 98 | 145 | 147 | 196 | 176 |
| Interstate | 54 | 60 | 56 | 68 | 84 |
| Preserved in Tins—Overseas | 88 | 89 | 101 | 164 | 110 |
| Interstate | 138 | 164 | 209 | 308 | 364 |
| Other (b) —Overseas | 22 | 25 | 7 | 32 | 1 |
| Interstate | 6 | 11 | 11 | 6 | 11 |
| All Types—Overseas | 208 | 259 | 255 | 392 | 287 |
| Interstate | 198 | 235 | 276 | 382 | 459 |
| Total | 406 | 494 | 531 | 774 | 746 |

(a) Includes fresh and frozen fish and fish preserved in tins.

(b) Includes smoked and salted fish and potted fish, extracts and caviare.

Fisheries Division (Department of Agriculture)

Under the *Fisheries Act* 1959, provision is made for a Sea Fisheries Advisory Board to advise the Minister on fisheries except in respect of salmon-trout, eels and whitebait which come under the control of the Inland Fisheries Commission. The Board consists of nine members appointed by the Governor as follows: the Director of Agriculture (or his representative); the Commissioner of Police (or his representative); a representative of Societies interested in the science of Zoology; two representatives of processors; and four representatives of professional fishermen.

The Division of Fisheries is administered by a Secretary who is responsible to the Director of Agriculture. The activities of the Division are as follows:

Law Enforcement

The *Fisheries Act* provides for regulations governing the taking of fish of particular species, oysters, scallops, abalone and seals in State territorial waters generally. Particular attention has lately been focussed on the taking of under-sized and illegal crayfish.

Extension and Management

Considerable advice and assistance is given to professional fishermen on all matters affecting sea fishing. The provision of facilities such as cool stores, slipways and finance is a continuing function under this heading.

Research

A programme to study the population dynamics and biology of the crayfish has commenced. Research into scallops is continuing. A programme of sonar searching for pelagic fish, particularly jack mackerel (*Trachurus declivis*-404) was started early in 1968.

VALUE OF PRODUCTION PRIMARY AND SECONDARY INDUSTRIES

Introduction

The value of production for Tasmania and the other Australian States is computed in accordance with the decisions reached at the Conferences of Australian Statisticians, and principally at the Conference held in 1935. The values shown in the tables that follow refer only to the production of primary industries and factories and exclude the building and construction industry, those industrial establishments not classified as factories, and certain agricultural and farmyard operations on areas of less than one acre.

Primary Industries

The following primary industries are those for which data are separately compiled in the value of production tables:

| <i>Primary, Rural</i> | <i>Primary, Non-Rural</i> |
|-----------------------|---------------------------|
| Agriculture | Trapping |
| Pastoral | Forestry |
| Dairying | Fishing |
| Poultry | Mining and Quarrying |
| Bee-farming | |

In respect of these primary industries, the following uniform definitions are employed:

- (i) *Gross Value of Production* is the value placed on recorded production at the wholesale prices realised at the principal markets. In cases where primary products are consumed at the place of production, or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets. Subsidies and bounties paid by the State and Commonwealth Governments to primary industries are, in general, included in gross value of production.
- (ii) *Local Value* (i.e. gross production valued at the place of production) is ascertained by deducting marketing costs from the gross value. Marketing costs include freight, cost of containers, commission and other charges incidental thereto.
- (iii) *Net Value of Production* represents local values *less* value of materials used in the process of production. Materials used in the process of production include seed, power, petrol and oils, fodder consumed by farm stock, manures, dips, sprays and other costs of a similar nature. No deductions from local values have been made for depreciation, certain maintenance charges, interest, or some other costs normally incurred.

Secondary Industries (Factories)

To place a value upon the production of factories, the following definitions are employed:

- (i) *Value of Output* is the value of goods manufactured and includes the amount received for repair work, work done on commission, etc. The basis is the selling value *at the factory*, exclusive of all delivery charges.
- (ii) *Value of Production* is the value of output *less* the value (at the factory) of the materials used, containers and packing, power, fuel and light used, tools replaced, and materials used in repairs to plant (but not depreciation charges).

In examining values for primary and secondary production, it will be seen that *gross value of production* is a concept confined to primary industries; that *local value* for primary industries is broadly analogous in concept with *value of output* for factories; that *net value of production* for primary industries is comparable with *value of production* for factories, since both are derived by deducting the value of materials used in the process of production, a procedure which eliminates possible duplication of values.

Comparing or Combining Industries

In comparing or combining production values for any of the previous industries, it is logically necessary to use only *net value of production* (primary) and *value of production* (secondary); both *gross* and *local* values will be found unsatisfactory because some degree of duplication will be involved. An obvious example of duplication can occur when the raw material for a factory process is the final product of a farm (e.g. the value of hops is contained in the *gross value of agriculture* and also in the *value of output of factories*, specifically of breweries). The primary-secondary relationship not only involves primary products becoming raw materials for factories but also factory products, (e.g. fertilisers) becoming essential materials for primary industries. Less obvious, perhaps, is the fact that one rural industry may supply the 'raw material' for another rural industry (e.g. hay from *agriculture* consumed by livestock in the *pastoral* and *dairying* industries).

In the following chapter, *gross* and *local* values are shown for the various primary industries; the basic reason for publication is not to facilitate comparison and combination of these values for individual industries, or groups of industries, but rather to show how *net value of production* is computed.

In accordance with the previous definitions, *net value of production* for primary industries is computed by deducting the cost of materials used in the process of production from the local value. Details of such costs are not available for: (i) bee-farming; (ii) trapping; (iii) forestry; (iv) fishing. In the case of these industries, only local value can be computed.

Sources of Information—Value of Production

Primary Production, Rural

The data used are those concerning quantity of primary production (supplied principally by farmers, etc.) together with information collected from various sources on prices realised in the principal markets for different products, the costs of marketing these products and the costs of certain materials used in their production. Price and cost data are obtained from statutory authorities, (e.g. Dairy Produce Equalisation Committee), market reports, special returns collected from wholesalers, brokers, auctioneers, etc., and from overseas and interstate trade statistics.

Primary Production, Non-Rural

(i) *Trapping*—Principal data are derived from export of skins and information on the annual mutton bird catch.

(ii) *Forestry*—Principal value data are available from the annual factory census, since forestry products are the basic raw material for sawmills, newsprint and paper mills, etc.

(iii) *Fishing*—Quantity data are supplied by fishermen and prices are collected from fish wholesalers and agents.

(iv) *Mining and Quarrying*—Principal value data are supplied by mine operators in the annual mining census.

Secondary Production

Factories—Both quantity and value data are supplied by factories in the annual factory census. Further details will be found in Chapter 8, 'Secondary Industry—Manufacturing'.

GROSS VALUE OF PRODUCTION**Rural Industries**

The Rural Industries are defined, for value of production purposes, to comprise: (i) agriculture; (ii) pastoral; (iii) dairying; (iv) poultry; (v) bee-farming. These industries have no relation, however, to any classification of individual rural holdings on an industry basis; a single holding would, in fact, usually produce several products, some attributable to one and some to another such industry, (e.g. wheat and oats which would be counted in agriculture, wool in pastoral and milk in dairying). The industries represent merely a convenient grouping of the aggregate production of individual products.

Agriculture

The following table shows quantity and value details for the agricultural industry. Also included in the table is the 'unit gross value', (i.e. the average price per unit).

Gross Value of Production—Agriculture, 1966-67

| Crop | Unit of Quantity | Production | Unit Gross Value | Gross Value |
|--|------------------|------------|------------------|-------------|
| Cereals for Grain— | | | \$ | '000 |
| Barley | bushels | 771,750 | 1.437 | 1,109 |
| Oats | bushels | 947,960 | 0.881 | 835 |
| Wheat | bushels | 385,243 | 1.433 | 552 |
| Total Cereals for Grain | .. | .. | .. | (a) 2,497 |
| Hay | tons | 436,907 | 16.353 | 7,145 |
| Green Fodder | .. | .. | .. | 1,202 |
| Field Peas— | | | | |
| Blue | bushels | 111,658 | 2.955 | 330 |
| Grey and Other | bushels | 40,170 | 2.157 | 87 |
| Total Field Peas | .. | .. | .. | 417 |

Gross Value of Production—Agriculture, 1966-67—*continued*

| Crop | Unit of Quantity | Production | Unit Gross Value | Gross Value |
|---|------------------|------------|------------------|-------------|
| Vegetables for Stock Fodder— | | | \$ | \$'000 |
| Horse Beans .. . | bushels | 8,284 | 3.139 | 26 |
| Turnips (Swede and White) .. . | .. | (b) | .. | 4,818 |
| Other .. . | .. | .. | .. | 13 |
| Total Vegetables for Stock Fodder .. . | .. | .. | .. | 4,856 |
| Grass Seed— | | | | |
| Clover | cwt | 632 | 39.878 | 25 |
| Other | cwt | 11,071 | 10.969 | 121 |
| Total Grass Seed .. . | .. | 11,702 | 12.531 | 147 |
| Industrial Crops— | | | | |
| Hops (Dry Weight) .. . | lb | 2,091,415 | 0.750 | 1,568 |
| Mustard .. . | lb | 129,740 | 0.105 | 14 |
| Total Industrial Crops .. . | .. | .. | .. | 1,581 |
| Vegetables for Human Consumption— | | | | |
| Beans—French and Runner .. . | '000 lb | 8,127 | 70.941 | 577 |
| Peas—Green (Ex-shell) .. . | '000 lb | 56,790 | 48.905 | 2,777 |
| Potatoes | tons | 73,300 | 54.557 | 3,999 |
| Turnips | tons | 4,235 | 85.566 | 362 |
| Total Vegetables for Human Consumption .. . | .. | .. | .. | (a) 9,390 |
| Orchard Fruit— | | | | |
| Apples | bushels | 6,301,000 | 2.372 | 14,947 |
| Apricots | bushels | 20,500 | 3.600 | 74 |
| Pears | bushels | 404,000 | 2.424 | 979 |
| Total Orchard Fruit .. . | .. | .. | .. | (c) 16,091 |
| Small Fruit— | | | | |
| Currants | lb | 2,715,000 | 0.112 | 304 |
| Loganberries | lb | 681,000 | 0.103 | 70 |
| Raspberries | lb | 3,240,000 | 0.111 | 358 |
| Total Small Fruit .. . | .. | .. | .. | (a) 797 |
| All Other Crops | .. | .. | .. | 803 |
| Total Crops | .. | .. | .. | 44,925 |

(a) Includes other crops not specified in table.

(b) Not available.

(c) Government subsidy to compulsory hail insurance scheme excluded from Apples and Pears, but included in Total Orchard Fruit.

Average Unit Gross Values

In the next table, average unit gross values for the principal crops are shown for a five-year period. The unit values have been calculated for the principal agricultural products, by dividing the total quantity produced into the total gross value of production for each unit. They therefore represent weighted average 'prices' of the product in all markets (including the farm itself where quantities are retained for farm use).

*Value of Production*Average Unit Gross Value of Principal Crops
(\$)

| Crop | Unit | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------------|---------|---------|---------|---------|---------|---------|
| Cereals for Grain— | | | | | | |
| Barley .. | bushels | 1.392 | 1.433 | 1.391 | 1.315 | 1.437 |
| Oats .. | bushels | 0.758 | 0.758 | 0.918 | 0.824 | 0.881 |
| Wheat .. | bushels | 1.475 | 1.433 | 1.333 | 1.379 | 1.433 |
| Hay .. | tons | 14.158 | 16.000 | 12.774 | 15.516 | 16.353 |
| Field Peas— | | | | | | |
| Blue .. | bushels | 2.500 | 3.042 | 3.187 | 2.589 | 2.955 |
| Grey and Other | bushels | 2.858 | 2.775 | 3.060 | 2.536 | 2.157 |
| Vegetables for Stock Fodder— | | | | | | |
| Horse Beans .. | bushels | 3.000 | 2.942 | 4.010 | 3.900 | 3.139 |
| Industrial Crops— | | | | | | |
| H o p s (d r y weight) .. | lb | 0.650 | 0.650 | 0.683 | 0.710 | 0.750 |
| Vegetables for Human Consumption— | | | | | | |
| Peas—Green (a) | '000 lb | 54,242 | 52,121 | 46,767 | 43,748 | 48,905 |
| Potatoes .. | tons | 25,175 | 64,875 | 117,968 | 37,388 | 54,557 |
| Turnips .. | tons | 46,658 | 46,600 | 62,801 | 76,411 | 85,566 |
| Orchard Fruit— | | | | | | |
| Apples .. | bushels | 2.142 | 2.040 | 2.157 | 1.906 | 2.372 |
| Pears .. | bushels | 2.492 | 2.258 | 2.636 | 1.384 | 2.424 |
| Small Fruit— | | | | | | |
| Currants .. | lb | 0.112 | 0.119 | 0.102 | 0.094 | 0.112 |
| Raspberries .. | lb | 0.102 | 0.104 | 0.099 | 0.103 | 0.111 |

(a) Ex-shell.

The following table summarises the gross value of production of agriculture for a five-year period:

Gross Value of Production—Agriculture
(\$'000)

| Crop | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Cereals for Grain | 2,123 | 1,927 | 1,703 | 1,965 | 2,497 |
| Hay | 4,432 | 3,987 | 4,654 | 3,991 | 7,145 |
| Green Fodder | 892 | 916 | 818 | 963 | 1,202 |
| Field Peas | 508 | 544 | 595 | 382 | 417 |
| Vegetables for Stock Fodder | 4,039 | 4,495 | 3,824 | 4,813 | 4,856 |
| Grass Seed | 270 | 178 | 481 | 95 | 147 |
| Industrial Crops | 1,879 | 1,038 | 1,440 | 2,191 | 1,581 |
| Vegetables for Human Consumption | 5,357 | 7,436 | 10,820 | 6,747 | 9,390 |
| Orchard Fruit | 14,716 | 19,042 | 15,199 | 17,874 | 16,091 |
| Small Fruit | 912 | 888 | 707 | 749 | 797 |
| All Other Crops | 422 | 497 | 633 | 752 | 803 |
| Total All Crops | 35,550 | 40,948 | 40,875 | 40,523 | 44,925 |

Three items in the previous table illustrate forcibly the duplication in values which can result from combining gross values of production for individual industries. The items are: (i) hay; (ii) green fodder; (iii) vegetables

for stock fodder, all being 'raw materials' for the pastoral and dairy industries.

Pastoral, Dairying, Poultry and Bee-farming

For value of production purposes, the pastoral industry is taken to comprise the three products—wool (including wool on skins), cattle (other than culled dairy cows and bobby calves) slaughtered, and sheep and lambs slaughtered. ('Bobby' calves are calves sold as soon as practicable after birth.) Dairying is taken to comprise the three products—milk, dairy cattle (culled cows and bobby calves) slaughtered, and pigs slaughtered. Poultry comprises eggs and poultry slaughtered, and bee-farming honey and bees-wax produced.

The prime source of data on livestock slaughtered is information supplied by slaughtering establishments, supplemented by farmers' annual census returns giving details of slaughtering on farms. As sufficiently detailed information is not available on the types of cattle slaughtered to enable a precise dissection of total slaughterings to be made between the pastoral and dairying industries, data on the known culling rate in dairy herds are also used for this purpose.

The table that follows gives details of the gross value of production for each of the products of these industries:

Gross Value of Production—Pastoral, Dairying, Poultry and Bee-farming
(\$'000)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| Pastoral— | | | | | |
| Shorn Wool (including Crutchings) | 16,195 | 19,359 | 17,411 | 20,399 | 19,393 |
| Other Wool (a) | 1,577 | 1,993 | 1,639 | 2,006 | 1,590 |
| Sheep and Lambs Slaughtered (b) (c) | 4,089 | 4,662 | 5,640 | 6,382 | 6,418 |
| Cattle Slaughtered (b) (d) | 5,674 | 6,831 | 8,542 | 8,563 | 10,139 |
| Total | 27,535 | 32,844 | 33,233 | 37,350 | 37,540 |
| Dairying— | | | | | |
| Milk | 17,008 | 18,367 | 19,416 | 19,100 | 19,956 |
| Cattle Slaughtered (d) | 1,192 | 1,418 | 1,662 | 1,854 | 1,977 |
| Pigs Slaughtered (b) | 3,204 | 3,687 | 4,156 | 4,490 | 4,833 |
| Total | 21,404 | 23,472 | 25,234 | 25,445 | 26,766 |
| Poultry— | | | | | |
| Eggs | 3,704 | 3,765 | 4,210 | 4,414 | 5,083 |
| Poultry Slaughtered } | 3,704 | 3,765 | 4,210 | 4,414 | 5,083 |
| Total | 3,704 | 3,765 | 4,210 | 4,414 | 5,083 |
| Bee-farming— | | | | | |
| Honey | 93 | 113 | 122 | 86 | 50 |
| Beeswax | 3 | 3 | 9 | 7 | 3 |
| Total | 96 | 116 | 131 | 92 | 53 |

(a) Dead, fellmongered and wool on skins exported.

(b) Includes adjustment for net exports of livestock.

(c) Excluding value of wool on skins.

(d) Culled dairy cows and bobby calves slaughtered are allocated to dairying; all other cattle slaughtered to pastoral.

An adjustment is made to the value of animals slaughtered to allow for the net export of livestock from the State. Otherwise, no allowance is made in the pastoral and dairying industries for the raising of livestock or their sale, except at the point of slaughter. In particular, in contrast with the practice in some other fields, (e.g. taxation), no allowance is made for changes in livestock inventories.

Primary Industries

The following table brings together gross values of production for all primary industries for a five-year period:

Gross Value of Production—Primary Industries
(\$ million)

| Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------|---------|---------|---------|---------|---------|
| Agriculture | 35.6 | 40.9 | 40.9 | 40.5 | 44.9 |
| Pastoral | 27.5 | 32.8 | 33.2 | 37.4 | 37.5 |
| Dairying | 21.4 | 23.5 | 25.2 | 25.4 | 26.8 |
| Poultry | 3.7 | 3.8 | 4.2 | 4.4 | 5.1 |
| Bee-farming | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total Rural | 88.3 | 101.1 | 103.7 | 107.8 | 114.4 |
| Trapping | 0.5 | 0.5 | 0.4 | 0.4 | 0.5 |
| Forestry | 13.1 | 13.7 | 15.3 | 16.0 | 16.6 |
| Fishing | 2.3 | 2.2 | 2.7 | 3.3 | 3.7 |
| Mining and Quarrying .. | 20.8 | 23.4 | 28.5 | 32.8 | 39.3 |
| Total Non-Rural | 36.7 | 39.8 | 46.9 | 52.5 | 60.1 |
| Total Primary | 125.0 | 140.9 | 150.6 | 160.3 | 174.5 |

NET VALUE OF PRODUCTION—ALL RECORDED INDUSTRIES

Definition

In the preliminary section dealing with definitions, it was emphasised that *gross values of production* are unsuitable for making comparisons or for combining individual industries or groups of industries. In fact, it is impossible to make a comparison between gross value of production for primary industries and for factories, since gross value of production is not collected for factories; the primary-secondary comparison (or combination) can only be made on the basis of *net value of production* (primary industries) and *value of production* (factories).

Net Value, 1966-67

The next table shows, in detail, the method whereby gross values (primary industries) are reduced to local values and then further reduced to net values; also, the reduction of value of output (factories) to value of production. It will be noted that the combination of primary and secondary industries is made only in respect of the final column, where the net value of production (primary) is added to the value of production (factories).

Value of Production—All Recorded Industries, 1966-67
 (\$ million)

| Industry | Gross Production Valued at Principal Market | Less Marketing Costs | Local Value, (i.e. Gross Production Valued at Place of Production) | Less Cost of Materials, Fuel, etc. Used | Net Value of Production |
|----------|---|----------------------|--|---|-------------------------|
|----------|---|----------------------|--|---|-------------------------|

PRIMARY

| | | | | | |
|-----------------------|-------|------|-------|------|-------|
| Rural— | | | | | |
| Agriculture .. | 44.9 | 9.3 | 35.6 | 6.2 | 29.4 |
| Pastoral .. | 37.5 | 2.6 | 34.9 | 13.4 | 21.6 |
| Dairying .. | 26.8 | 1.4 | 25.4 | 6.2 | 19.2 |
| Poultry .. | 5.1 | 0.1 | 5.0 | 2.3 | 2.8 |
| Bee-farming (a) .. | 0.1 | (b) | (b) | .. | (b) |
| Total Rural .. | 114.4 | 13.3 | 101.0 | 28.1 | 72.9 |
| Non-Rural— | | | | | |
| Trapping (a) .. | 0.5 | (b) | 0.5 | .. | 0.5 |
| Forestry (a) .. | 16.6 | 2.3 | 14.3 | .. | 14.3 |
| Fishing (a) .. | 3.7 | 0.6 | 3.0 | .. | 3.0 |
| Mining & Quarrying .. | 39.3 | 4.7 | 34.6 | 8.7 | 25.8 |
| Total Non-Rural | 60.1 | 7.7 | 52.4 | 8.7 | 43.7 |
| Total Primary .. | 174.5 | 21.0 | 153.4 | 36.8 | 116.6 |

SECONDARY

| Industry | Value of Output | Less Cost of Materials, Fuel, etc. Used | Value of Production |
|--------------------------|-----------------|---|---------------------|
| Factories | 438.0 | 243.4 | 194.6 |

ALL INDUSTRIES

| | |
|--|-------|
| Net Value of Production, Primary and Secondary Industries | 311.1 |
|--|-------|

General Note: Reference is made to value definitions in the introduction to this section.

(a) Gross and local values available, but production costs not available.

(b) Under \$50,000.

Cost of Materials, Fuel, etc. Used

In the previous table, *local value* has been reduced to *net value of production* (primary) and *value of output* to *value of production* (factories); in each case, the process involved deduction of certain costs. Full details of factory costs appear in Chapter 8, 'Secondary Industry—Manufacturing'; the following table has been compiled to show details of those costs taken into account in primary industries.

*Value of Production***Primary Industries—Recorded Costs, 1966-67
(\$'000)**

| Cost Item | Agriculture | Pastoral | Dairying | Poultry | Mining and Quarrying | Total |
|--------------------------------|-------------|----------|----------|---------|----------------------|-----------|
| RURAL | | | | | | |
| Seed | 1,727 | 277 | 119 | .. | .. | 2,123 |
| Fertilisers | 1,466 | 2,919 | 1,251 | .. | .. | 5,636 |
| Spraying, Sheep-Dip .. | 1,100 | 141 | 30 | .. | .. | 1,271 |
| Stock Feed .. | 106 | 9,237 | 4,121 | 2,140 | .. | 15,605 |
| Water for Irrigation .. | 160 | 50 | 50 | .. | .. | 260 |
| Power, Fuel & Light .. | 1,681 | 743 | 662 | 127 | .. | 3,212 |
| Total Rural .. | 6,240 | 13,367 | 6,232 | 2,267 | .. | 28,106 |
| NON-RURAL | | | | | | |
| Total (a) .. | .. | .. | .. | .. | (a) 8,733 | (a) 8,733 |
| RURAL AND NON-RURAL (b) | | | | | | |
| Total Primary .. | 6,240 | 13,367 | 6,232 | 2,267 | 8,733 | 36,839 |

(a) Includes power, fuel and light (\$903,000) and cost of repairs, timber, explosives and other expendable stores used in mining and quarrying (\$7,830,000).

(b) Costs not available for bee-farming, trapping, forestry and fishing.

Net Value—Summary

The next table summarises, for a five-year period, the net value of production for all recorded industries.

**Net Value of Production—All Recorded Industries
(\$ million)**

| Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------------|---------|---------|---------|---------|---------|
| Primary, Rural— | | | | | |
| Agriculture | 22.3 | 25.7 | 27.2 | 23.1 | 29.4 |
| Pastoral | 15.1 | 19.6 | 21.0 | 22.3 | 21.6 |
| Dairying | 15.0 | 16.8 | 19.0 | 18.0 | 19.2 |
| Poultry | 1.2 | 1.3 | 1.6 | 1.8 | 2.8 |
| Bee-farming (a) | 0.1 | 0.1 | 0.1 | 0.1 | (b) |
| Total Rural | 53.7 | 63.4 | 69.0 | 65.3 | 72.9 |
| Primary, Non-Rural— | | | | | |
| Trapping (a) | 0.5 | 0.5 | 0.4 | 0.3 | 0.5 |
| Forestry (a) | 11.3 | 11.6 | 13.3 | 13.8 | 14.3 |
| Fishing (a) | 1.8 | 1.7 | 2.2 | 2.7 | 3.0 |
| Mining and Quarrying | 12.2 | 14.5 | 18.2 | 20.3 | 25.8 |
| Total Non-Rural | 25.8 | 28.3 | 34.0 | 37.2 | 43.7 |
| Total Primary | 79.5 | 91.7 | 103.1 | 102.5 | 116.6 |
| Secondary— | | | | | |
| Factories | 142.0 | 152.6 | 167.3 | 175.6 | 194.6 |
| Total Industries | 221.5 | 244.2 | 270.3 | 278.1 | 311.1 |

(a) Local value of production.

(b) Less than \$50,000.

The next table covers the decade ending in 1959-60 and shows the emerging dominance of secondary industry.

Net Value of Production to 1959-60: Primary-Secondary Industry Comparison

| Year | Primary | | Secondary | | Total Net Value |
|---------------|-----------|---------------------|-----------|---------------------|-----------------|
| | Net Value | Proportion of Total | Net Value | Proportion of Total | |
| | \$'000 | per cent | \$'000 | per cent | \$'000 |
| 1950-51 | 66,947 | 57.6 | 49,229 | 42.4 | 116,176 |
| 1951-52 | 69,418 | 53.8 | 59,588 | 46.2 | 129,006 |
| 1952-53 | 69,099 | 53.1 | 60,997 | 46.9 | 130,096 |
| 1953-54 | 65,427 | 49.7 | 66,129 | 50.3 | 131,556 |
| 1954-55 | 74,213 | 49.3 | 76,228 | 50.7 | 150,441 |
| 1955-56 | 87,417 | 48.8 | 91,862 | 51.2 | 179,280 |
| 1956-57 | 79,181 | 44.9 | 97,365 | 55.1 | 176,546 |
| 1957-58 | 77,078 | 42.6 | 103,660 | 57.4 | 180,739 |
| 1958-59 | 70,216 | 39.3 | 108,602 | 60.7 | 178,818 |
| 1959-60 | 75,808 | 38.6 | 120,392 | 61.4 | 196,201 |

Tasmania and Australia Compared

Some indicator other than comparison with previous years is needed. Probably the most significant measure is the comparison between the net values of production for all recorded Tasmanian industries and those for Australia as a whole.

Net Value of Production: Tasmania and Australia

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 (a) |
|---|---------|---------|---------|---------|-------------|
| NET VALUE OF PRODUCTION—ALL RECORDED INDUSTRIES (\$ million) | | | | | |
| Tasmania | 221.5 | 244.2 | 270.3 | 278.1 | 311.1 |
| Australia | 7,496.7 | 8,398.1 | 9,069.7 | 9,356.9 | 10,400.1 |

TASMANIAN PROPORTION OF AUSTRALIAN TOTAL
(per cent)

| | | | | | |
|----------------------------|------|------|------|------|------|
| Primary, Rural— | | | | | |
| Agriculture | 2.7 | 2.8 | 2.8 | 2.7 | 2.4 |
| Pastoral | 1.4 | 1.5 | 1.7 | 1.9 | 1.8 |
| Dairying | 4.9 | 5.1 | 5.3 | 5.2 | 5.3 |
| Poultry | 2.3 | 2.0 | 3.1 | 2.8 | 3.9 |
| Bee-farming (b) | 3.0 | 2.1 | 2.9 | 2.4 | 1.3 |
| Total Rural | 2.4 | 2.4 | 2.6 | 2.6 | 2.6 |
| Primary, Non-Rural— | | | | | |
| Trapping (b) | 4.0 | 3.6 | 3.1 | 2.5 | 4.0 |
| Forestry (b) | 11.8 | 11.3 | 11.9 | 12.1 | 12.9 |
| Fishing (b) | 5.8 | 5.5 | 5.7 | 6.6 | 6.8 |
| Mining and Quarrying | 4.2 | 4.4 | 4.6 | 4.6 | 5.0 |
| Total Non-Rural | 6.0 | 6.0 | 6.1 | 6.1 | 6.4 |
| Total All Primary | 2.9 | 2.9 | 3.2 | 3.3 | 3.3 |
| Secondary— | | | | | |
| Factories | 2.9 | 2.9 | 2.8 | 2.8 | 2.8 |
| Total Industries | 3.0 | 2.9 | 3.0 | 3.0 | 3.0 |

(a) Australian figures are preliminary estimates.

(b) Local value of production.

Tasmanian-Australian Comparison

Taking into account Tasmania's proportion of the Australian population (3.2 per cent), and examining the 1966-67 comparison in the previous table, it is immediately apparent which are Tasmania's most important industries *on a national scale*. In order, they appear to be forestry, fishing, dairying and mining; again *on a national scale*, the non-rural group of primary industries appears to be more significant than the rural group.

Leaving aside the question of Tasmania's contribution to the Australian total, the State's most important activity in terms of net value of production is secondary industry (factories), followed by agriculture, mining, pastoral, dairying and forestry in that order.

Chapter 8

SECONDARY INDUSTRY—MANUFACTURING

FACTORIES

Historical

The evolution of Tasmanian farming is described in continuous annual statistics from 1818 but the early records relating to factories are extremely meagre. While the early colonial statisticians had immediately put on record such fundamental measures as acreages, crop yields and livestock numbers, they were content, in the matter of factories, to merely classify and count the number of establishments. Some concept of early manufacturing activity can be derived from the following table which has been adapted from the *Statistical Returns of Van Diemen's Land, 1824 to 1839*:

Comparative Account of Manufactories and Trades in Van Diemen's Land

| Description of Establishment | Number of Establishments | | Description of Establishment | Number of Establishments | |
|-------------------------------|--------------------------|------|------------------------------|--------------------------|------|
| | 1824 | 1838 | | 1824 | 1838 |
| Agricultural Implement Makers | .. .. | 9 | Mills, Steam | .. | 3 |
| Breweries | 3 | 19 | Mills, Water and Wind .. | 5 | 51 |
| Candle Makers | .. .. | 4 | Potteries | .. | 1 |
| Cooperages | .. .. | 9 | Printing Offices | 1 | 8 |
| Coachmakers | .. .. | 2 | Ropemakers | 1 | 1 |
| Distilleries | 1 | 4 | Sailmakers | 1 | 5 |
| Dyers | .. .. | 2 | Sawmills | 1 | 2 |
| Engineers | .. .. | 7 | Shipwrights | .. | 5 |
| Fellmongers | 2 | 4 | Snuff Makers | .. | 1 |
| Foundries | .. .. | 3 | Soap Makers | 1 | 1 |
| Furriers | .. .. | 2 | Tanners | 6 | 15 |
| Mast and Block Makers .. | .. | 1 | Wool Staplers | .. | 3 |

The grinding of wheat for flour gave rise to the first demand for power, the original solution being water mills and windmills followed by use of the steam engine (the first steam mill commenced in 1831). Later records refer to 'mills, horse-driven', the beast being driven around an endless circle. The relation between early factory activity and the farming and whaling economy in which it grew is indicated by the fact that, in the table, five of the descriptions (fellmongers, etc.) refer to processing of animal products, four (shipwrights, etc.) to the construction and maintenance of ships and two (breweries, etc.) to the making of alcoholic beverages for which there were nearly as many licensed outlets as exist today.

The *Account of Manufactories and Trades*, on a simple establishment basis similar to the last table, was published annually right throughout the 19th century and is at least a guide to the introduction of new industries and new skills to the State.

The presentation of factory statistics, in the private sector, on a simple establishment basis failed to answer a number of questions such as the number of employees, the quantities produced, the value of output, the capital invested,

etc., and this lack of information persisted until 1882 when the Government Statistician began publishing quantity, value and employment data for jam factories and breweries; the coverage of industries was then gradually expanded until, by 1911, publication had commenced of annual factory statistics showing most of the basic information sought in current collections.

Some indication of the transformation of Tasmania from an essentially rural economy is given in the following table in which the proportion of the work force engaged in manufacturing activities is compared in the period commencing with 1911:

Employment in Tasmanian Factories Compared with Total Work Force

| Particulars | 1911 | 1933 | 1947 | 1954 | 1961 | (a) 1966 |
|--|--------|--------|---------|---------|---------|----------|
| Work Force (b)— | | | | | | |
| Males .. | 61,182 | 69,226 | 80,201 | 93,976 | 101,289 | 106,557 |
| Females .. | 13,343 | 16,861 | 20,117 | 24,232 | 29,628 | 40,765 |
| Persons .. | 74,525 | 86,087 | 100,318 | 118,208 | 130,917 | 147,322 |
| Factory Employment (c)— | | | | | | |
| Males .. | 8,737 | 7,147 | 16,186 | 20,249 | 24,811 | 28,041 |
| Females .. | 1,561 | 2,086 | 3,751 | 4,340 | 5,347 | 6,274 |
| Persons .. | 10,298 | 9,233 | 19,937 | 24,589 | 30,158 | 34,315 |
| Factory Employment as Percentage of Work Force— | | | | | | |
| Males .. | 14.3 | 10.3 | 20.2 | 21.5 | 24.5 | 26.3 |
| Females .. | 11.7 | 12.4 | 18.6 | 17.9 | 18.0 | 15.4 |
| Persons .. | 13.8 | 10.7 | 19.9 | 20.8 | 23.0 | 23.3 |

(a) Work force figures in 1966 not strictly comparable with those for previous years; see 'Employment' section of Chapter 10, 'Labour, Prices and Wages'.

(b) Source: censuses of population in years shown; includes employers and self-employed.

(c) Average number of persons engaged, including working proprietors, as reported in the annual factory census for 1911 and those for financial years ending in 1933, 1947, 1954, 1961 and 1966.

Electric Power and Industrialisation

In 1900, the Government Statistician published operational details of Tasmania's chief manufacturing industries; these read in part as follows (with specification of the number of 'hands' employed): Sawmills, 920 hands; Jam Factories, 499; Boot Factories, 364; Brickyards and Potteries, 247; Woollen Mills, 177; Tanneries and Fellmongeries, 131; Flour Mills, 126; Breweries, 97; Butter Factories, 92; Fruit-drying, 76; Soap and Candle Factories, 57; Bark Mills, 33; Bacon Factories, 18. At this point in time, virtually all power was generated by steam engine on the factory site, the alternative sources such as 'gas, oil and electricity' being very little used. A year later the establishment of the Commonwealth of Australia introduced free trade between the States and this deprived Tasmanian industries of the protection which they had previously enjoyed. The free importation of Australian manufactures, chiefly from Victoria, brought about a period of stagnation and inhibited the further development of manufacturing industry within the State; loss of population by migration to other parts of Australia in each decade up to World War II reflected the lack of employment opportunities which an expansion of manufacturing activity would have provided.

If no new factor had been introduced in the years after Federation, the probability is that Tasmania would have maintained a predominantly rural economy, diversified to a limited extent by sawmilling and mining. In these

circumstances, employment opportunities would have been severely restricted and the more industrialised continental States would have continued to rapidly drain off the island's population growth attributable to natural increase. The new factor that eventually transformed the State's economy was hydro-electric power but its possibilities could not be exploited without heavy capital expenditure and massive construction works, all of which required time. It is paradoxical, therefore, that the first major hydro-electric construction works were initiated in a period of stagnation immediately prior to World War I, and that the second major construction phase was pushed forward during the 1930s when the State's factory activity was at a very low ebb due to the general economic depression.

The key to the further industrialisation of Tasmania was its abundant supply of water at high level in the central plateau and the State's industrial revolution may be thought as beginning in 1916 when the Waddamana turbines below the Great Lake began operating; from the initial 10,000 horsepower then developed, the hydro-electric system has expanded to today's capacity of nearly 1.5 million horsepower. The availability of cheap electric power resulted in the establishment of new types of industry, some on a very large scale; examples are: electrolytic zinc production, 1917; carbide manufacture, 1918; cement manufacture, 1930; fine paper production, 1938; newsprint production, 1941; aluminium production, 1955; ferro-manganese production, 1962. The introduction of pulp and paper manufacture is a special case to the extent that changes in technology made possible the use of native hardwoods for the first time; the production of a suitable pulp from eucalypts was pioneered in Tasmania before plants were established in other Australian States.

Given that electrical power is cheap and usually abundant, the question arises as to why the industrialisation of the State has not progressed further. The two obvious impediments to the rapid introduction of new enterprises are the small size of the local market and the costs of transportation to the principal markets in the continental States. The weighing of these factors, (i.e. cheaper power against possibly higher transportation costs), has naturally had the effect of attracting industries requiring large quantities of power. Such undertakings are not necessarily large employers of labour so it is possible that industrialisation, measured by capital investment and electrical power consumption, may have progressed more rapidly than industrialisation measured by involvement of the work force in factory activities.

Without this advantage in electrical power, Tasmania would be largely restricted to an economy based on its own primary products—and even these, in many cases, would need to be processed in other Australian States. With it, Tasmania is not only capable of processing its own primary products but also of importing raw materials (e.g. the ores and concentrates used at Risdon and Bell Bay) for its own manufacturing industries.

FACTORY STATISTICS

Definitions in Factory Statistics

The statistics dealing with factories have been compiled from returns collected under the authority of the Commonwealth *Census and Statistics Act* and supplied annually by manufacturers. A return must be supplied for every factory, which is defined for this purpose as an establishment where four or more persons are employed or where power (other than manual) is used in any manufacturing process.

If a manufacturing business is conducted in conjunction with any other activity, particulars relating to the manufacturing section only are included in the statistics. Where two or more industries are conducted in the same establishment, a separate return is obtained for each industry, if practicable.

Manufacturers are required to state in their returns particulars of the number, wages, etc. of their employees, the value of premises and equipment and of factory stocks, the horsepower of machinery, the value, and, in many cases, the quantities of raw materials and fuel used, and quantities and values of principal articles produced. The returns obtained from manufacturers are not intended to show a complete record of the income and expenditure of factories nor to show the profits or losses of factories collectively or individually.

Employment Definitions

The average number of persons employed is compiled on two different bases: the average during the period of operation, and the average over the whole year. Of these, the former is simply the aggregate of the average number of persons employed in each factory during its period of operation (whether the whole or only part of the year). This average is used only for details dealing with the classification according to the number of persons employed. The latter, which is used in all other instances, is calculated by reducing the average number working in the factories to the equivalent number working for a full year.

Working proprietors are included in all employment figures other than those dealing with monthly employment, but salaries and wages paid in all cases exclude drawings by working proprietors.

Value Definitions

The value of factory output is the value of goods manufactured or their value after passing through the particular process of manufacture, and *includes the amount received for repair work*, work done on commission and receipts for other factory work. The basis of the valuation of the output is the selling value of the goods at the factory, exclusive of all delivery costs and charges and excise duties, but inclusive of Government bounty and subsidy payments.

The value of production is the value added to raw materials by the process of manufacture. It is calculated by deducting from the value of factory output the value (at the factory) of those items of cost, other than wages and salaries, specified on the factory statistical collection form, namely materials used, containers and packing, power, fuel and light used, tools replaced, and materials used in repairs to plant (but not depreciation charges); the remainder so derived is the value added to raw materials and represents the amount available for wages, taxation, rent, interest, insurance, etc. and profit.

Avoidance of Duplication in Values: Because of the duplication of materials used (which means that the finished product of one process of manufacture often forms raw material for another), an inaccurate impression would be obtained by using the value of factory output in inter-industry and in year-to-year comparisons. Woollen manufactures will illustrate the point. Greasy wool forms the raw material for the wools scouring industry, the product of which is scoured wool. This is afterwards combed into wool tops which are used in the spinning mills for the manufacture of yarn. In due course, the yarn is woven into cloth, the raw material for the clothing industry. If these processes are carried out separately in different factories, it is evident that the value of the wool would be counted at each of the five stages of manufacture, assuming value of output was used as the basis for comparisons.

The concept of *value added* (i.e. value of production) prevents this double counting and gives a truer picture of the relative economic importance of industries.

Classification of Factories

In the compilation of statistical data dealing with factories in Australia, a standard classification of manufacturing industries, formulated at a Conference of Australian Statisticians in 1902 and periodically revised, was used until the year 1929-30. A new classification based on that used in Great Britain for census purposes was introduced in 1930-31, and this, revised and extended to a minor degree in regard to sub-classes of industry in accordance with decisions of the Statisticians' Conference, 1945, still obtains.

It should be noted that where a factory, engaged in the production of such goods as would entitle it to a classification in more than one sub-class of industry, is unable to give separate production costs, etc. for such activities, it is classified to its predominant activity. The concept of manufacturing is broadened in many fields to include repair work and some sub-classes of the basic classification which follows shortly are specifically reserved for repairing (e.g. IV-10 'Motor Vehicles—Repairs') while others include both construction and repair work (e.g. IV-7 'Construction and Repair, Tramcars and Railway Rolling Stock').

The list that follows shows *all* the classes and sub-classes in the current Commonwealth classification of factories. Each sub-class is followed by the number of Tasmanian factories classified to that sub-class for the year shown. It will be noted that many sub-classes contain a nil entry, indicating that no factory of this type exists in Tasmania, or alternatively, that no factory entitled to classification in more than one sub-class engages predominantly in the described activity. Despite this, the complete list has been given because the fact that particular types of industry do not exist in Tasmania may be just as significant as the fact that other types do exist.

**Classification of Factories Showing Number in Each Class and Sub-Class of Industry
1966-67**

| Class and Sub-Class | Number of Factories |
|---|---------------------|
| <i>Class I. Treatment of Non-Metalliferous Mine and Quarry Products</i> | |
| 1. Coke Works | .. |
| 2. Briquetting and Pulverised Coal | .. |
| 3. Carbide | 1 |
| 4. Lime, Plaster of Paris, Asphalt | 7 |
| 5. Fibrous Plaster and Products | 10 |
| 6. Marble, Slate, etc... | 3 |
| 7. Cement, Portland | 1 |
| 8. Asbestos Cement Sheets and Mouldings | 1 |
| 9. Other Cement Goods | 34 |
| 10. Other | .. |
| Class Total I | 57 |
| <i>Class II. Bricks, Pottery, Glass, etc.</i> | |
| 1. Bricks and Tiles | 11 |
| 2. Earthenware, China, Porcelain, Terra Cotta | 3 |
| 3. Glass (other than Bottles) | 8 |
| 4. Glass Bottles | 1 |
| 5. Other | .. |
| Class Total II | 23 |

Classification of Factories Showing Number in Each Class and Sub-Class of Industry,
1966-67—continued

| Class and Sub-Class | Number of Factories |
|---|---------------------|
| <i>Class III. Chemicals, Dyes, Explosives, Paints, Oils, Grease</i> | |
| 1. Industrial and Heavy Chemicals and Acids | 6 |
| 2. Pharmaceutical and Toilet Preparations | .. |
| 3. Explosives (including Fireworks) | .. |
| 4. Whitelead, Paints, Varnishes | 2 |
| 5. Oils, Vegetable | .. |
| 6. Oils, Mineral | 2 |
| 7. Oils, Animal | .. |
| 8. Boiling Down, Tallow Refining | 10 |
| 9. Soap and Candles | 2 |
| 10. Chemical Fertilisers | 7 |
| 11. Inks, Polishes, etc. | .. |
| 12. Matches | .. |
| 13. Other | .. |
| Class Total III | 29 |
| <i>Class IV. Industrial Metals, Machines, Conveyances</i> | |
| 1. Smelting, Converting, Refining, Rolling of Iron and Steel .. | .. |
| 2. Foundries (Ferrous) | 3 |
| 3. Plant, Equipment and Machinery, incl. Machine Tools .. | 40 |
| 4. Other Engineering | 82 |
| 5. Extracting and Refining of Other Metals; Alloys | 4 |
| 6. Electrical Machinery, Cables and Apparatus | 27 |
| Construction and Repair of Vehicles— | |
| Tramcars and Railway Rolling Stock— | |
| 7. Government and Municipal | 4 |
| 8. Other | 1 |
| Motor Vehicles— | |
| 9. Construction and Assembly | 1 |
| 10. Repairs | 353 |
| 11. Motor Bodies | 65 |
| 12. Horse Drawn Vehicles | .. |
| 13. Motor Accessories | 4 |
| 14. Aircraft | 2 |
| 15. Cycles, Foot and Hand Driven, and Accessories | 3 |
| 16. Other Conveyances | .. |
| Ship and Boat Building and Repairing, Marine Engineering— | |
| 17. Government | .. |
| 18. Other | 13 |
| 19. Cutlery and Small Hand Tools | 1 |
| 20. Agricultural Machines and Implements | 11 |
| Non-ferrous Metals— | |
| 21. Rolling and Extrusion | .. |
| 22. Foundry, Casting, etc. | 9 |
| 24. Sheet Metal Working, Pressing and Stamping | 31 |
| 25. Pipes, Tubes and Fittings—Ferrous | .. |
| 26. Wire and Wire Working (incl. Nails) | 9 |
| 27. Stoves, Ovens and Ranges | 1 |
| 28. Gas Fittings and Meters | .. |
| 29. Lead Mills | .. |
| 30. Sewing Machines | 1 |
| 31. Arms, Ammunition (excl. Explosives) | .. |
| 32. Wireless and Amplifying Apparatus | 12 |
| 33. Other Metal Works | 2 |
| Class Total IV | 679 |
| <i>Class V. Precious Metals, Jewellery, Plate</i> | |
| 1. Jewellery | .. |
| 2. Watches and Clocks (incl. Repairs) | 14 |
| 3. Electroplating (Gold, Silver, Chromium, etc.) | 5 |
| Class Total V | 19 |

**Classification of Factories Showing Number in Each Class and Sub-Class of Industry,
1966-67—continued**

**Classification of Factories Showing Number in Each Class and Sub-Class of Industry,
1966-67—continued**

| Class and Sub-Class | Number of Factories |
|---|---------------------|
| <i>Class IX. Food, Drink and Tobacco—continued</i> | |
| 15. Condensed and Dried Milk Factories | 4 |
| 16. Margarine | 1 |
| 17. Meat and Fish Preserving | 15 |
| 18. Condiments, Coffee, Spices | 3 |
| 19. Ice and Refrigerating | 27 |
| 20. Salt | .. |
| 21. Aerated Waters, Cordials, etc. | 12 |
| 22. Breweries | 2 |
| 23. Distilleries | .. |
| 24. Winemaking | 1 |
| 25. Cider and Perry | 1 |
| 26. Malting | 2 |
| 27. Bottling | .. |
| 28. Tobacco, Cigars, Cigarettes, Snuff | 4 |
| 29. Dehydrated Fruit and Vegetables | .. |
| 30. Ice Cream | 2 |
| 31. Sausage Skins | 2 |
| 33. Other | 1 |
| Class Total IX | 275 |
| <i>Class X. Sawmills, Joinery Works, Boxes and Cases, Woodturning and Woodcarving</i> | |
| 1. Sawmills | 279 |
| 2. Plywood Mills (incl. Veneers) | 2 |
| 3. Bark Mills | 1 |
| 4. Joinery | 107 |
| 5. Cooperage | 3 |
| 6. Boxes and Cases | 10 |
| 7. Woodturning, Woodcarving, etc. | 3 |
| 8. Basketware and Wickerware, (incl. Seagrass and Bamboo Furniture) | 2 |
| 9. Perambulators (incl. Pushers and Strollers) | .. |
| 10. Wall and Ceiling Boards (not Plaster or Cement) | 2 |
| 11. Other | 2 |
| Class Total X | 411 |
| <i>Class XI. Furniture of Wood, Bedding, etc.</i> | |
| 1. Cabinet and Furniture Making (incl. Billiard Tables and Upholstery) | 51 |
| 2. Bedding and Mattresses (not Wire) | 8 |
| 3. Furnishing Drapery | .. |
| 4. Picture Frames | .. |
| 5. Blinds | 6 |
| Class Total XI | 65 |
| <i>Class XII. Paper, Stationery, Printing, Bookbinding, etc.</i> | |
| 1. Newspapers and Periodicals | 5 |
| 2. Printing, Government | 2 |
| 3. Printing, General, incl. Bookbinding | 29 |
| 4. Manufactured Stationery | .. |
| 5. Stereotyping, Electrotyping | .. |
| 6. Process and Photo Engraving | .. |
| 7. Cardboard Boxes, Cartons and Containers | 3 |
| 8. Paper Bags | 3 |
| 9. Paper Making | 4 |
| 10. Pencils, Penholders, Chalks, Crayons | .. |
| 11. Other | 2 |
| Class Total XII | 48 |

**Classification of Factories Showing Number in Each Class and Sub-Class of Industry,
1966-67—continued**

| Class and Sub-Class | | | | | | Number of Factories |
|--|--|--|--|--|--|---------------------|
| <i>Class XIII. Rubber</i> | | | | | | |
| 1. Rubber Goods (incl. Tyres Made) | | | | | | .. |
| 2. Tyre Retreading and Repairing | | | | | | 20 |
| Class Total XIII | | | | | | 20 |
| <i>Class XIV. Musical Instruments</i> | | | | | | |
| 1. Gramophones and Gramophone Records | | | | | | .. |
| 2. Pianos, Piano Players, Organs | | | | | | .. |
| 3. Other | | | | | | .. |
| Class Total XIV | | | | | | .. |
| <i>Class XV. Miscellaneous Products</i> | | | | | | |
| 1. Linoleum, Leathercloth, Oilcloth, etc. | | | | | | .. |
| 2. Bone, Horn, Ivory and Shell | | | | | | .. |
| 3. Plastic Moulding and Products | | | | | | 3 |
| 4. Brooms and Brushes | | | | | | 3 |
| 5. Optical Instruments and Appliances | | | | | | 4 |
| 6. Surgical and Other Scientific Instruments and Appliances | | | | | | 2 |
| 7. Photographic Material (incl. Developing and Printing) | | | | | | 1 |
| 8. Toys, Games and Sports Requisites | | | | | | 2 |
| 9. Artificial Flowers | | | | | | .. |
| 10. Other | | | | | | 4 |
| Class Total XV | | | | | | 19 |
| <i>Class XVI. Heat, Light and Power</i> | | | | | | |
| Electric Light and Power— | | | | | | |
| 1. Government | | | | | | 13 |
| 2. Local Authority | | | | | | .. |
| 3. Companies | | | | | | 2 |
| Gasworks— | | | | | | |
| 4. Government | | | | | | .. |
| 5. Local Authority | | | | | | .. |
| 6. Companies | | | | | | 2 |
| Class Total XVI | | | | | | 17 |
| Grand Total—All Classes | | | | | | 1,771 |

Summary of Factory Statistics

In the tables that follow, factory statistics, where appropriate, are presented generally in terms of the class of industry but not of sub-class. (Details for individual sub-classes appear in the bulletin *Secondary Industries*, a publication of the Tasmanian Office of the Bureau of Census and Statistics.)

The next table has been compiled to show factory development over a long period as measured by number of factories, employment, value of production, etc. In making comparisons over so long a period, account should be taken of changes in the purchasing power of money.

Development of Factories from 1911—Selected Years

| Year | Number of Factories | Average Number of Persons Engaged (a) | Salaries and Wages Paid (b) | Value of— | | | |
|---------|---------------------|---------------------------------------|-----------------------------|--------------------------------|----------------|--------|--------------------------------------|
| | | | | Materials Used, Fuel, etc. (c) | Production (d) | Output | Land, Buildings, Plant and Machinery |
| 1911 .. | 609 | 10,298 | \$ 1.7 | \$ 4.2 | \$ 2.9 | \$ 7.1 | \$ 4.5 |
| 1920 .. | 616 | 10,225 | 3.0 | 8.8 | 5.5 | 14.3 | 5.8 |
| 1929-30 | 845 | 10,820 | 4.1 | 10.0 | 7.1 | 17.1 | 19.9 |
| 1934-35 | 926 | 10,555 | 3.2 | 8.1 | 6.3 | 14.4 | 17.5 |
| 1939-40 | 980 | 14,670 | 5.4 | 13.5 | 12.5 | 26.0 | 21.1 |
| 1944-45 | 1,006 | 19,511 | 10.0 | 24.9 | 17.8 | 42.7 | 26.9 |
| 1949-50 | 1,456 | 23,506 | 19.3 | 51.5 | 38.7 | 90.2 | 44.8 |
| 1954-55 | 1,597 | 25,452 | 37.7 | 101.0 | 76.2 | 177.2 | 118.9 |
| 1959-60 | 1,683 | 29,662 | 57.6 | 147.7 | 120.4 | 268.1 | 251.3 |
| 1962-63 | 1,764 | 30,755 | 64.8 | 161.9 | 142.0 | 303.9 | 301.9 |
| 1963-64 | 1,746 | 31,833 | 70.6 | 188.5 | 152.6 | 341.1 | 310.1 |
| 1964-65 | 1,805 | 32,580 | 76.5 | 214.2 | 167.3 | 381.5 | 364.3 |
| 1965-66 | 1,792 | 34,315 | 83.0 | 229.0 | 175.6 | 404.6 | 370.6 |
| 1966-67 | 1,771 | 34,879 | 90.8 | 243.4 | 194.6 | 438.0 | 403.1 |

(a) Average for whole year after 1927-28; earlier averages relate to the period of operation.
Includes working proprietors.

(b) Excludes drawings of working proprietors.

(c) Includes materials used plus cost of power, fuel, light, water and lubricating oils, containers, packing, etc., tools replaced and repairs to plant but excludes depreciation allowance and sundry overhead charges (e.g. rates, land tax, etc.) not specified on the factory form.

(d) Value of output less cost of materials used, fuel, etc. as defined in note (c).

Earlier, reference was made to the role played by hydro-electric power in the development of Tasmania's manufacturing industries. The next table has been compiled to show the sources of power employed to drive machinery in factories, and also the power available in the central electric stations; these series cannot be taken back to 1911 but the start-point, 1938-39, is early enough to illustrate the rapid growth in the application of industrial power.

**Engines and Motors Employed in Factories; Generators in Central Electric Stations
('000 Horsepower)**

| Year | Factories—Rated Horsepower of Engines Ordinarily in Use (a) | | | | Generators in Central Electric Stations (b) | | |
|---------|---|---------------------|--------------|-----------|---|--------------------|--------------|
| | Steam | Internal Combustion | Electric (c) | Total (d) | Total Installed Capacity | Effective Capacity | Maximum Load |
| 1938-39 | 4.0 | 2.5 | 55.9 | 62.5 | 158.9 | 126.0 | 117.0 |
| 1949-50 | 4.6 | 8.7 | 131.5 | 145.0 | 256.0 | 267.7 | 262.5 |
| 1959-60 | 1.2 | 11.7 | 251.9 | 265.1 | 778.8 | 771.0 | 587.1 |
| 1962-63 | 1.0 | 11.5 | 290.2 | 302.7 | 884.9 | 879.9 | 778.3 |
| 1963-64 | 0.6 | 11.7 | 302.3 | 314.6 | 1,078.0 | 1,073.0 | 800.5 |
| 1964-65 | 0.5 | 13.1 | 308.5 | 322.2 | 1,149.6 | 1,144.6 | 828.9 |
| 1965-66 | 0.7 | 10.2 | 319.2 | 330.0 | 1,150.9 | 1,145.7 | 880.7 |
| 1966-67 | 1.0 | 9.6 | 329.5 | 340.1 | 1,212.2 | 1,207.0 | 876.4 |

(a) Excluding central electric stations.

(b) The kilowatt measures for the stations have been changed to horsepower equivalents.

(c) Excludes motors driven by electricity of plant's own generation.

(d) Includes, until 1961-62, small amounts of water power driving factory machinery directly.

The effective capacity of the central electric stations is obviously more than adequate to meet the power needs of machines in factories but there is additional demand for power for metallurgical refining (e.g. electric furnaces and electrolytic processes), for traction and for commercial, farming and domestic purposes. In 1966-67, machines in Tasmanian factories were driven by engines and electric motors with a total rating of 340,100 horsepower of which 97 per cent was available from electric motors.

Factories in Tasmania and Other Australian States

A comparison of Tasmanian factory activity with that in other States is shown in the following table. To compare the relative intensity of factory activity in the Australian States, account needs to be taken of their widely different populations and the first column in the table—'Population Relativity'—calls attention to this fact.

Australian States—Factories, 1966-67

| State | Popula- tion Relat- ivity (a) | Fact- ories | Employment (Average Whole Year including Working Proprietors) | Salaries and Wages Paid (b) | Value of— | | | |
|------------------|---|----------------|--|---|--|------------------------|--------------|---|
| | | | | | Materials Used, Fuel, etc. (c) | Produc- tion (d) | Out- put | Land, Buildings, Plant and Machinery |
| N.S.W. . . | 11.4 | no. | no. | \$m | \$m | \$m | \$m | \$m |
| Victoria . . . | 8.7 | 24,849 | 524,054 | 1,399.7 | 3,704.2 | 2,938.2 | 6,642.5 | 3,622.5 |
| Queensland . . . | 4.5 | 18,054 | 445,557 | 1,167.9 | 2,814.1 | 2,236.4 | 5,050.5 | 2,617.0 |
| S.A. . . | 4.5 | 6,013 | 117,937 | 282.2 | 1,029.8 | 592.6 | 1,622.4 | 896.1 |
| W.A. . . | 3.0 | 6,222 | 118,220 | 299.1 | 781.2 | 564.0 | 1,345.2 | 767.4 |
| Tasmania | 2.3 | 5,167 | 63,757 | 153.6 | 429.4 | 335.8 | 765.2 | 421.2 |
| | 1.0 | 1,771 | 34,879 | 90.8 | 243.4 | 194.6 | 438.0 | 403.1 |
| Total (e) | 30.9 | 62,076 | 1,304,404 | 3,393.3 | 9,002.2 | 6,861.5 | 15,863.8 | 8,727.1 |

(a) Tasmania's total mean population for 1966-67 is expressed as 1.0; other State populations in proportion to 1.0.

(b) Excludes drawings of working proprietors.

(c) Includes materials used plus cost of power, fuel, light, water and lubricating oils, containers, packing, etc., tools replaced and repairs to plant but excludes depreciation allowance and sundry overhead charges not specified on the factory form.

(d) Value of output less cost of materials used, fuel, etc., as defined in note (c).

(e) Excludes A.C.T. and N.T.

Applying the appropriate population relativity factors to Tasmanian factory figures, it will be seen that, on most indicators, Tasmania is relatively more industrialised than W.A. and Queensland, that its pro-rata value of production exceeds that of S.A. and that its pro-rata value of land, buildings, plant and machinery exceeds that of any other State. In regard to the last comparison (land, buildings, plant, etc.), account should be taken of the fact that central electric stations are treated as factories for the purpose of these statistics and, in the case of Tasmania, over 47 per cent of the value of land, buildings, plant and machinery is derived from a single factory class, namely 'XVI—Heat, Light and Power'. Since the other States rely for power largely on thermal generation not generally involving such heavy capital outlays as hydro-electric construction, the results are not unexpected.

Value of Production Comparison

The comparison of manufacturing in Tasmania with that for Australia as a whole produces some interesting results. Taking Tasmania's 'norm' as 3.2 per cent (based on population relativity), it can be established that the

island's principal contribution to Australian totals is in X, the sawmilling group, XII, the papermaking group, XVI, the power group and VI, the textiles group. In all other classes, its performance either equals or falls below the norm.

The value of production for Tasmanian secondary industries is compared with the Australian value of production over a five year period in the following table:

Factories, Value of Production: Tasmania and Australia Compared

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| TOTAL VALUE OF PRODUCTION (\$m) | | | | | |
| Tasmania | 142.0 | 152.6 | 167.3 | 175.6 | 194.6 |
| Australia | 4,975.2 | 5,270.0 | 5,897.0 | 6,280.4 | 6,888.2 |
| TASMANIAN COMPONENT AS PROPORTION OF AUSTRALIAN TOTAL (PER CENT) | | | | | |
| Class— I. Treatment of Non-Metalliferous Mine and Quarry Products .. | 3.5 | 3.2 | 2.9 | 3.1 | 2.7 |
| II. Bricks, Pottery, Glass, etc. .. | 1.4 | 1.3 | 1.2 | 1.2 | 1.2 |
| III. Chemicals, Dyes, etc. .. | 1.3 | 1.6 | 1.6 | 1.5 | 1.4 |
| IV. Industrial Metals, Machines, etc. | 2.4 | 2.3 | 2.2 | 2.2 | 2.4 |
| V. Precious Metals, Jewellery, Plate | 0.7 | 0.7 | 0.6 | 0.6 | 0.4 |
| VI. Textiles and Textile Goods (not Dress) | 4.3 | 4.2 | 4.8 | 4.4 | 4.3 |
| VII. Skins and Leather (not Clothing or Footwear) | 0.5 | 0.4 | 0.4 | 0.4 | 0.5 |
| VIII. Clothing (except Knitted) .. | 0.7 | 0.6 | 0.7 | 0.7 | 0.6 |
| IX. Food, Drink and Tobacco .. | 3.3 | 3.2 | 3.1 | 3.0 | 3.0 |
| X. Sawmills, Joinery, Boxes, etc. | 6.4 | 6.6 | 6.8 | 7.2 | 6.7 |
| XI. Furniture, Bedding, etc. .. | 1.8 | 1.9 | 1.9 | 1.8 | 2.1 |
| XII. Paper, Stationery, Printing, Binding, etc. | 6.9 | 6.8 | 6.2 | 6.1 | 6.0 |
| XIII. Rubber | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| XIV. Musical Instruments, etc. .. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| XV. Miscellaneous Products .. | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 |
| Total Classes I to XV .. | 2.8 | 2.8 | 2.7 | 2.6 | 2.7 |
| XVI. Heat, Light and Power .. | 5.8 | 5.8 | 6.1 | 5.9 | 6.1 |
| Total All Classes .. | 2.9 | 2.9 | 2.8 | 2.8 | 2.8 |

A similar table is presented at the end of Chapter 7, 'Primary Industry—Non Rural'; this details all recorded primary industries, as well as the manufacturing industry in total, to give an all-industry Tasmanian-Australian comparison for the same period.

Size Classification of Factories

The size classification of factories is based on the average number of persons employed during the period of operation and *includes working proprietors*. The following table has been compiled to show size changes in the structure of Tasmanian industry since 1928-29:

Number of Factories and Persons Employed by Size of Factory

| Year | Size of Factory (i.e. Average Number of Persons Employed) | | | | | | | |
|----------------------|---|-----|---------|----------|----------|-----------|--------------|--------|
| | Under 4 | 4 | 5 to 10 | 11 to 20 | 21 to 50 | 51 to 100 | 101 and over | Total |
| NUMBER OF FACTORIES | | | | | | | | |
| 1928-29 .. | 187 | 96 | 305 | 112 | 49 | 22 | 14 | 785 |
| 1938-39 .. | 256 | 114 | 362 | 110 | 71 | 17 | 14 | 944 |
| 1948-49 .. | 478 | 142 | 390 | 162 | 106 | 43 | 25 | 1,346 |
| 1958-59 .. | 736 | 151 | 400 | 174 | 126 | 46 | 33 | 1,666 |
| 1966-67 .. | 730 | 149 | 427 | 218 | 150 | 48 | 49 | 1,771 |
| PERSONS EMPLOYED (a) | | | | | | | | |
| 1928-29 .. | 430 | 384 | 2,091 | 1,632 | 1,558 | 1,492 | 3,984 | 11,571 |
| 1938-39 .. | 582 | 456 | 2,422 | 1,569 | 2,252 | 1,155 | 6,231 | 14,667 |
| 1948-49 .. | 1,062 | 568 | 2,633 | 2,344 | 3,308 | 3,033 | 10,549 | 23,497 |
| 1958-59 .. | 1,447 | 604 | 2,755 | 2,589 | 3,869 | 3,298 | 14,278 | 28,840 |
| 1966-67 .. | 1,398 | 596 | 3,003 | 3,198 | 4,734 | 3,430 | 18,772 | 35,131 |

(a) The average number of persons employed as shown in the above table (35,131 in 1966-67) differs from the average number of persons employed shown in all other tables (34,879 in 1966-67) because the average number of persons employed over the period of operation used for size classification exceeds average employment over the whole year.

The change in the size structure of Tasmanian factories since 1928-29 is summarised in the next table:

**Change in Average Number of Persons Employed
According to Size of Factory, 1928-29 to 1966-67**

| Particulars | Size of Factory (i.e. Average Number of Persons Employed) | | | | | | | |
|--|---|------|---------|----------|----------|-----------|--------------|---------|
| | Under 4 | 4 | 5 to 10 | 11 to 20 | 21 to 50 | 51 to 100 | 101 and over | Persons |
| Increase in Number Employed-- Persons ... As Percent of Total Increase.. | 968 | 212 | 912 | 1,566 | 3,176 | 1,938 | 14,788 | 23,560 |
| | +4.1 | +0.9 | +3.9 | +6.6 | +13.5 | +8.2 | +62.8 | 100.0 |

As indicated in the previous table, the main characteristic of the period under review has been the marked increase in employment in the largest establishments employing 101 hands and over.

The apparent disproportionate increase in the number of factories employing less than four hands can be misleading. The increase is thought to be due largely to definitional factors; establishments with less than four hands are excluded if using only manual power but included if using other types of power. Thus, over the years, the greater use of fractional horsepower electric motors would have progressively qualified more and more small establishments as 'statistical factories'. (A two-man bakery mixing by hand is excluded; using a powered mixer, it is included.)

The next table has been compiled to indicate in which classes of industry the largest establishments occur:

Factories—Classification According to Number of Persons Employed in Each Industry Class, 1966-67

| Class of Industry | Number of Factories Employing on the Average— | | | | |
|--|---|----------|-----------|--------------|-------|
| | 20 or under | 21 to 50 | 51 to 100 | 101 and over | Total |
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 51 | 3 | 1 | 2 | 57 |
| II. Bricks, Pottery, Glass, etc. | 17 | 5 | 1 | .. | 23 |
| III. Chemicals, Dyes, etc. | 25 | 2 | .. | 2 | 29 |
| IV. Industrial Metals, Machines, etc. .. | 589 | 55 | 20 | 15 | 679 |
| V. Precious Metals, Jewellery, Plate .. | 19 | .. | .. | .. | 19 |
| VI. Textiles and Textile Goods (not Dress) | 13 | 1 | 1 | 8 | 23 |
| VII. Skins and Leather (not Clothing or Footwear) | 4 | 1 | .. | .. | 5 |
| VIII. Clothing (except Knitted) | 74 | 4 | 3 | .. | 81 |
| IX. Food, Drink and Tobacco | 226 | 34 | 8 | 7 | 275 |
| X. Sawmills, Joinery, Boxes, etc. .. | 371 | 27 | 8 | 5 | 411 |
| XI. Furniture, Bedding, etc. | 58 | 7 | .. | .. | 65 |
| XII. Paper, Stationery, Printing, Binding, etc. | 30 | 5 | 4 | 9 | 48 |
| XIII. Rubber | 19 | 1 | .. | .. | 20 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 18 | 1 | .. | .. | 19 |
| Total Classes I to XV .. | 1,514 | 146 | 46 | 48 | 1,754 |
| XVI. Heat, Light and Power | 10 | 4 | 2 | 1 | 17 |
| Total All Classes .. | 1,524 | 150 | 48 | 49 | 1,771 |

It will be seen that the largest establishments (101 hands and over) occur, with descending order of frequency in IV, industrial metals, etc.; XII, paper making, etc.; VI, the textile group; IX, foodprocessing, etc.; and X, sawmilling, etc. As a later table will indicate, almost 88 per cent of all factory employment is concentrated in these five classes.

Factories in Statistical Divisions

A general indication of the geographical distribution of factories is given in the following table, the analysis dealing with factory Classes I to XV inclusive. In Tasmania, factory Class XVI, 'Heat, Light and Power', constitutes something of a problem in any geographical distribution because the chief component of the class is the power houses, or 'central electric stations' generating electricity for the State Hydro-Electric Commission. To take a specific case, it is theoretically possible for the basic water storage to be in one statistical division, the generating stations in a second division and the point of delivery, through transmission lines, in seven other divisions. Since the output of energy from the stations is integrated into a State-wide grid, the allocation of value of output, value of production, etc. to various statistical divisions would merely confuse the issue; accordingly, Class XVI, 'Heat, Light and Power', is not dissected according to area and is completely excluded from the table.

Factories: Principal Items by Statistical Divisions and Selected Areas, 1966-67 (a)
Classes I-XV Only

| Particulars | Factories (no.) | Employ- ment (no.) | Salaries and Wages Paid (\$'000) | Value (\$'000) of— | | | |
|--------------------------|--------------------|--------------------------|--|-------------------------------------|-----------------|---------|---|
| | | | | Materials Used, Fuel, etc. | Produc- tion | Output | Land, Buildings, Plant and Machinery |
| STATISTICAL DIVISIONS | | | | | | | |
| Hobart.. . | 538 | 13,409 | 35,997 | 86,038 | 68,142 | 154,181 | 65,515 |
| North Central.. | 305 | 7,263 | 15,665 | 31,685 | 26,744 | 58,429 | 22,769 |
| North Western | 435 | 8,718 | 24,408 | 69,206 | 48,615 | 117,821 | 60,718 |
| North Eastern | 145 | 2,170 | 6,226 | 29,015 | 18,048 | 47,064 | 46,842 |
| North Midland | 91 | 1,166 | 2,693 | 8,481 | 4,632 | 13,113 | 5,550 |
| Midland .. | 57 | 285 | 646 | 2,585 | 1,382 | 3,966 | 507 |
| South Eastern.. | 33 | 130 | 264 | 760 | 314 | 1,074 | 1,336 |
| Southern .. | 122 | 709 | 1,442 | 4,715 | 2,421 | 7,136 | 5,725 |
| Western .. | 28 | 602 | 1,980 | 9,796 | 7,701 | 17,496 | 989 |
| Total Classes I-XV .. | 1,754 | 34,452 | 89,323 | 242,280 | 178,000 | 420,280 | 209,952 |

SELECTED AREAS

| | | | | | | | |
|---------------------------------|-------|--------|--------|---------|---------|---------|---------|
| Hobart Metro- politan Area.. | 494 | 12,166 | 32,473 | 77,701 | 59,770 | 137,471 | 55,601 |
| Urban Launce- ston .. | 358 | 8,429 | 18,440 | 39,900 | 31,597 | 71,496 | 28,565 |
| Remainder of State .. | 902 | 13,857 | 38,410 | 124,680 | 86,632 | 211,312 | 125,787 |
| Total Classes I-XV .. | 1,754 | 34,452 | 89,323 | 242,280 | 178,000 | 420,280 | 209,952 |

(a) Definitions of employment, salaries and wages, materials used, fuel, etc., and value of production have been given in initial summary tables.

As indicated in the previous table, the chief centre of factory activity, measured in terms of value of production, was the Hobart Statistical Division; its contribution to total added value was 38 per cent. Major establishments in the Division engaged in zinc and chemical fertiliser production, paper making, carbide manufacture, confectionery making, fruit processing and various types of metalworking and engineering.

Contributing 27 per cent to the total value of production was the NW. Division, with major industries including paper manufacture, cement production, plywood and building-board making, fruit and vegetable canning and preserving, and some textile making. The North Central Division (City of Launceston) contributed 15 per cent and is the acknowledged textile 'capital' of the State. Next came the NE. Division with 10 per cent, major establishments engaging in aluminium and ferro-manganese production, and food preserving. The principal industry in the Western Division is the smelting of copper, this Division contributing four per cent.

The previous table shows that Tasmanian factories are not concentrated in the metropolitan area to the extent found in most of the continental States and that a considerable degree of de-centralisation of industry has been achieved.

Factories Classified According to Class of Industry

The following table contains a summary of the principal statistics for factories by class of industry in Tasmania:

Principal Items by Class of Industry, 1966-67

| Class of Industry | Factories | Employment | Salaries and Wages Paid | Value of— | | | |
|---|-----------|------------|-------------------------|----------------------------|------------|-----------|--------------------------------------|
| | | | | Materials Used, Fuel, etc. | Production | Output | Land, Buildings, Plant and Machinery |
| | | | | | | | |
| I. Treatment of Non-Metalliferous Mine and Quarry Products | no. 57 | no. 835 | \$m 2.47 | \$m 6.67 | \$m 5.08 | \$m 11.75 | \$m 10.44 |
| II. Bricks, Pottery, Glass, etc. | 23 | 354 | 0.93 | 0.94 | 1.74 | 2.68 | 2.18 |
| III. Chemicals, Dyes, Explosives, Paints, Oils, Grease | 29 | 995 | 3.46 | 10.61 | 9.17 | 19.78 | 11.13 |
| IV. Industrial Metals, Machines, Conveyances | 679 | 11,908 | 32.84 | 81.25 | 68.79 | 150.04 | 78.67 |
| V. Precious Metals, Jewellery, Plate | 19 | 47 | 0.08 | 0.05 | 0.15 | 0.20 | 0.18 |
| VI. Textiles and Textile Goods (Not Dress) | 23 | 4,004 | 8.45 | 20.35 | 13.11 | 33.45 | 12.54 |
| VII. Skins and Leather (not Clothing or Footwear) | 5 | 47 | 0.12 | 0.88 | 0.19 | 1.06 | 0.09 |
| VIII. Clothing (except Knitted) | 81 | 729 | 1.15 | 1.09 | 2.14 | 3.22 | 2.38 |
| IX. Food, Drink and Tobacco | 275 | 5,376 | 12.89 | 61.65 | 27.20 | 88.85 | 38.03 |
| X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving | 411 | 4,066 | 9.55 | 24.07 | 17.08 | 41.15 | 13.68 |
| XI. Furniture, Bedding, etc. | 65 | 614 | 1.14 | 2.47 | 2.07 | 4.54 | 1.76 |
| XII. Paper, Stationery, Printing, Bookbinding, etc. | 48 | 5,168 | 15.61 | 31.21 | 30.15 | 61.37 | 37.04 |
| XIII. Rubber | 20 | 151 | 0.36 | 0.84 | 0.72 | 1.55 | 1.04 |
| XIV. Musical Instruments | .. | .. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 19 | 158 | 0.28 | 0.22 | 0.42 | 0.64 | 0.79 |
| Total Classes I to XV | 1,754 | 34,452 | 89.32 | 242.28 | 178.00 | 420.28 | 209.95 |
| XVI. Heat, Light and Power | 17 | 427 | 1.43 | 1.11 | 16.57 | 17.68 | 193.19 |
| Total All Classes | 1,771 | 34,879 | 90.76 | 243.39 | 194.57 | 437.96 | 403.14 |

The next table shows the change in the number of factories in Tasmania during recent years:

Number of Factories in Each Class of Industry

| Class of Industry | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 56 | 51 | 58 | 59 | 58 | 57 |
| II. Bricks, Pottery, Glass, etc. | 19 | 19 | 19 | 23 | 23 | 23 |
| III. Chemicals, Dyes, etc. | 20 | 29 | 28 | 29 | 30 | 29 |
| IV. Industrial Metals, Machines, etc. | 471 | 602 | 618 | 656 | 676 | 679 |
| V. Precious Metals, Jewellery, Plate | 6 | 19 | 19 | 20 | 19 | 19 |
| VI. Textiles and Textile Goods (not Dress) | 17 | 19 | 20 | 21 | 23 | 23 |
| VII. Skins and Leather (not Clothing and Footwear) | 8 | 6 | 5 | 5 | 5 | 5 |
| VIII. Clothing (except Knitted) | 66 | 97 | 87 | 87 | 83 | 81 |
| IX. Food, Drink and Tobacco | 297 | 298 | 285 | 289 | 284 | 275 |
| X. Sawmills, Joinery, Boxes, etc. | 486 | 458 | 440 | 446 | 425 | 411 |
| XI. Furniture, Bedding, etc. | 74 | 69 | 70 | 66 | 62 | 65 |
| XII. Paper, Stationery, Printing, Binding, etc. | 33 | 43 | 46 | 49 | 48 | 48 |
| XIII. Rubber | 17 | 22 | 20 | 19 | 20 | 20 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 14 | 16 | 14 | 19 | 20 | 19 |
| Total Classes I to XV | 1,584 | 1,748 | 1,729 | 1,788 | 1,776 | 1,754 |
| XVI. Heat, Light and Power | 11 | 16 | 17 | 17 | 16 | 17 |
| Total All Classes | 1,595 | 1,764 | 1,746 | 1,805 | 1,792 | 1,771 |

Employment in Factories

All persons employed in the manufacturing activities of a factory, including proprietors working in their own business and persons working regularly at home (e.g. piece workers in the garment industry) are counted as factory workers while those engaged in selling and distributing, such as salesmen, travellers and carters employed solely in *outward* delivery of manufactured goods, are excluded. The grouping of occupations comprises: (i) working proprietors; (ii) managerial and clerical staff including salaried managers and working directors; (iii) chemists, draftsmen, and other laboratory and research staff; (iv) workers in factories (skilled and unskilled); foremen and overseers; carters (excluding outward delivery only), messengers, and persons working regularly at home.

The figures showing average employment in factories represent the equivalent average number of persons employed, including working proprietors, over a full year.

The next table shows average whole-year employment in Tasmanian factories according to class of industry for a five-year period:

Employment—Total Number of Workers According to Class of Industry

| Class of Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 813 | 819 | 803 | 824 | 835 |
| II. Bricks, Pottery, Glass, etc. | 382 | 367 | 379 | 369 | 354 |
| III. Chemicals, Dyes, etc. | 926 | 943 | 979 | 1,021 | 995 |
| IV. Industrial Metals, Machines, etc. .. | 10,335 | 10,719 | 10,873 | 11,463 | 11,908 |
| V. Precious Metals, Jewellery, Plate .. | 43 | 45 | 41 | 46 | 47 |
| VI. Textiles and Textile Goods (not Dress) | 3,213 | 3,426 | 3,818 | 3,933 | 4,004 |
| VII. Skins and Leather (not Clothing or Footwear) | 61 | 47 | 48 | 48 | 47 |
| VIII. Clothing (except Knitted) | 716 | 710 | 755 | 746 | 729 |
| IX. Food, Drink, and Tobacco | 5,088 | 5,053 | 4,995 | 5,358 | 5,376 |
| X. Sawmills, Joinery, Boxes, etc. .. | 3,665 | 3,886 | 4,021 | 4,200 | 4,066 |
| XI. Furniture, Bedding, etc. | 476 | 527 | 520 | 536 | 614 |
| XII. Paper, Stationery, Printing, Binding, etc. | 4,419 | 4,683 | 4,702 | 5,059 | 5,168 |
| XIII. Rubber | 132 | 129 | 126 | 144 | 151 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 120 | 111 | 134 | 151 | 158 |
| Total Classes I to XV | 30,389 | 31,465 | 32,194 | 33,898 | 34,452 |
| XVI. Heat, Light and Power | 366 | 368 | 386 | 417 | 427 |
| Total All Classes | 30,755 | 31,833 | 32,580 | 34,315 | 34,879 |

The factory class associated with the greatest employment in 1966-67 was IV, industrial metals, etc. with 34 per cent (the major sub-class of this class is 5, the extraction and refining of metals). The second greatest employment was in IX, food processing, with 15 per cent; then follow XII, the paper making group, with almost 15 per cent; X, the sawmilling group, with nearly 12 per cent; and VI, the textile group, with 11 per cent. Nearly 90 per cent of Tasmanian factory employment is concentrated in these five classes which also contain the largest establishments.

The following table shows the number of males and females employed in factories according to occupational groups:

Employment—Occupational Grouping in Factories by Sex

| Year | Working Proprietors | | Salaried Staff | | | | Wages Staff (c) | | Total Workers | | | Masculinity of Factory Workers (d) |
|---------|---------------------|---------|----------------------|---------|---------------|---------|-----------------|---------|---------------|---------|---------|------------------------------------|
| | | | Managerial, etc. (a) | | Technical (b) | | | | Males | Females | Persons | |
| | Males | Females | Males | Females | Males | Females | Males | Females | Males | Females | Persons | |
| 1956-57 | 961 | 52 | 1,815 | 934 | 506 | 65 | 19,200 | 4,137 | 22,482 | 5,188 | 27,670 | 433 |
| 1962-63 | 1,019 | 61 | 2,283 | 1,124 | 572 | 102 | 21,579 | 4,015 | 25,453 | 5,302 | 30,755 | 480 |
| 1963-64 | 930 | 71 | 2,434 | 1,146 | 512 | 110 | 22,345 | 4,285 | 26,221 | 5,612 | 31,833 | 467 |
| 1964-65 | 976 | 80 | 2,482 | 1,211 | 536 | 116 | 22,774 | 4,405 | 26,768 | 5,812 | 32,580 | 461 |
| 1965-66 | 963 | 75 | 2,641 | 1,298 | 538 | 120 | 23,899 | 4,781 | 28,041 | 6,274 | 34,315 | 447 |
| 1966-67 | 906 | 89 | 2,616 | 1,315 | 548 | 140 | 24,294 | 4,971 | 28,364 | 6,515 | 34,879 | 435 |

(a) Managerial and clerical staff, including salaried managers and working directors.

(b) Chemists, draftsmen and other laboratory and research staff.

(c) Foremen, overseers, workers in factories (skilled and unskilled), carters (excluding outward delivery only), messengers and persons working regularly at home.

(d) Number of males per 100 females.

The long-term trend in masculinity of factory workers is illustrated by the following series: 1906, 565; 1911, 559; 1921, 532; 1930-31, 363; 1940-41, 353; 1950-51, 445; 1960-61, 464; 1966-67, 435. The maximum was 591 recorded in 1920 and the minimum, 289 in 1943-44. Very low masculinity figures in the continuous series from 1906 are associated with the depression years in the 1930s and with the war years in the 1940s. A later table shows the classes of industry in which women predominate.

The following table shows the age distribution of factory workers as at the last pay-day in June; the figures exclude working proprietors:

Distribution of Employees According to Age (Excluding Working Proprietors)

| Year | Number of Persons on Factory Payrolls on last Pay-day in June— | | | | | | | |
|--------|--|-----------------------|-------------------|--------|----------------|-----------------------|-------------------|-------|
| | Males | | | | Females | | | |
| | Under 16 years | 16 and under 21 years | 21 years and over | Total | Under 16 years | 16 and under 21 years | 21 years and over | Total |
| 1957.. | 121 | 2,563 | 18,560 | 21,244 | 111 | 1,403 | 3,647 | 5,161 |
| 1963.. | 95 | 2,977 | 21,442 | 24,514 | 69 | 1,400 | 3,770 | 5,239 |
| 1964.. | 123 | 3,329 | 21,940 | 25,392 | 96 | 1,587 | 4,218 | 5,901 |
| 1965.. | 121 | 3,441 | 22,253 | 25,815 | 107 | 1,672 | 4,166 | 5,945 |
| 1966.. | 126 | 3,738 | 23,279 | 27,143 | 87 | 1,730 | 4,730 | 6,547 |
| 1967.. | 141 | 3,814 | 23,570 | 27,525 | 131 | 1,763 | 4,971 | 6,865 |

It will be observed that the proportion of factory workers under 16 years is extremely low, a reflection of the 16 year compulsory minimum leaving age operative in Tasmanian schools (the 'under 16' workers shown are not breaking the law since a system of exemption allows limited departure from the legal minimum age).

The next table has been compiled to show the considerable difference in the pattern of male and female employment:

Employment by Sex in Each Class of Industry, 1966-67

| Class of Industry | Average Employment (Whole Year) including Working Proprietors | | | | | |
|---|---|---------|---------|--------------------------|---------|---------|
| | Number | | | Percentage in Each Class | | |
| | Males | Females | Persons | Males | Females | Persons |
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 798 | 37 | 835 | 2.81 | 0.57 | 2.39 |
| II. Bricks, Pottery, Glass, etc. | 336 | 18 | 354 | 1.18 | 0.28 | 1.01 |
| III. Chemicals, Dyes, etc. .. | 937 | 58 | 995 | 3.30 | 0.89 | 2.85 |
| IV. Industrial Metals, Machines, etc. | 11,121 | 787 | 11,908 | 39.21 | 12.08 | 34.14 |
| V. Precious Metals, Jewellery, Plate | 45 | 2 | 47 | 0.16 | 0.03 | 0.13 |
| VI. Textiles and Textile Goods (Not Dress) .. | 1,784 | 2,220 | 4,004 | 6.29 | 34.08 | 11.48 |
| VII. Skins and Leather (not Clothing or Footwear) .. | 45 | 2 | 47 | 0.16 | 0.03 | 0.13 |
| VIII. Clothing (except Knitted) .. | 291 | 438 | 729 | 1.03 | 6.72 | 2.09 |
| IX. Food, Drink and Tobacco .. | 3,656 | 1,720 | 5,376 | 12.89 | 26.40 | 15.41 |
| X. Sawmills, Joinery, Boxes, etc. | 3,938 | 128 | 4,066 | 13.88 | 1.96 | 11.66 |
| XI. Furniture, Bedding, etc. .. | 508 | 106 | 614 | 1.79 | 1.63 | 1.76 |
| XII. Paper, Stationery, Printing, Binding, etc. .. | 4,224 | 944 | 5,168 | 14.89 | 14.49 | 14.82 |
| XIII. Rubber | 132 | 19 | 151 | 0.47 | 0.29 | 0.43 |
| XIV. Musical Instruments, etc. .. | .. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products .. | 124 | 34 | 158 | 0.44 | 0.52 | 0.45 |
| Total Classes I to XV | 27,939 | 6,513 | 34,452 | 98.50 | 99.97 | 98.78 |
| XVI. Heat, Light and Power .. | 425 | 2 | 427 | 1.50 | 0.03 | 1.22 |
| Total All Classes .. | 28,364 | 6,515 | 34,879 | 100.00 | 100.00 | 100.00 |

As demonstrated in the above table, female workers predominate in only two classes of industry in absolute numbers: VI, the textiles group and VIII, the clothing group. Four factory classes account for over 87 per cent of all female workers; in descending order of magnitude, these classes are the textiles group, the food processing group, the paper making group and the industrial metals group. The four factory classes accounting for most male employment (81 per cent) are, in descending order: the industrial metals group, the paper making group, the sawmilling group and the food processing group. When males and females are combined, the four major classes become the industrial metals group, the food processing group, the paper making group and the sawmilling group.

Salaries, Wages and Other Costs

The table that follows has been compiled to show male and female earnings and also to show separately the amounts paid to 'managerial and clerical staff, including salaried managers and working directors, chemists, draftsmen and other laboratory and research staff'.

*Secondary Industry—Manufacturing***Salaries and Wages in Factories (a), 1966-67**

(\$'000)

| Class of Industry | Managers, Clerical Staff, Chemists, Draftsmen, etc. | | All Other Employees | | Total | | |
|---|---|---------|------------------------|---------|--------|---------|---------|
| | Males | Females | Males | Females | Males | Females | Persons |
| I. Treatment of Non-Metalliferous Mine and Quarry Products .. . | 460 | 44 | 1,943 | 19 | 2,403 | 63 | 2,466 |
| II. Bricks, Pottery, Glass, etc. . | 100 | 23 | 797 | 4 | 897 | 28 | 925 |
| III. Chemicals, Dyes, etc. . | 803 | 91 | 2,546 | 23 | 3,349 | 114 | 3,463 |
| IV. Industrial Metals, Machines, etc. . . | 4,799 | 687 | 26,848 | 504 | 31,647 | 1,191 | 32,839 |
| V. Precious Metals, Jewellery, Plate .. . | 3 | 5 | 76 | .. | 79 | 5 | 83 |
| VI. Textiles and Textile Goods (not Dress) .. . | 910 | 373 | 3,953 | 3,219 | 4,863 | 3,592 | 8,455 |
| VII. Skins and Leather (Not Clothing or Footwear).. . | 31 | .. | 84 | 1 | 115 | 1 | 116 |
| VIII. Clothing (except Knitted) . | 104 | 34 | 494 | 516 | 598 | 550 | 1,148 |
| IX. Food, Drink and Tobacco . | 2,275 | 625 | 7,941 | 2,044 | 10,216 | 2,669 | 12,886 |
| X. Sawmills, Joinery, Boxes, etc. . . | 972 | 102 | 8,415 | 60 | 9,386 | 163 | 9,549 |
| XI. Furniture, Bedding, etc... . | 160 | 48 | 856 | 78 | 1,016 | 126 | 1,142 |
| XII. Paper, Stationery, Printing, Binding, etc. . . | 1,953 | 402 | 12,160 | 1,098 | 14,113 | 1,500 | 15,613 |
| XIII. Rubber .. . | 60 | 26 | 275 | .. | 335 | 26 | 361 |
| XIV. Musical Instruments, etc. . | .. | .. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products .. | 37 | 10 | 201 | 30 | 238 | 40 | 278 |
| Total Classes I to XV | 12,666 | 2,469 | 66,589 | 7,598 | 79,256 | 10,068 | 89,323 |
| XVI. Heat, Light and Power .. | 159 | 3 | 1,271 | .. | 1,430 | 3 | 1,433 |
| Total All Classes .. | 12,826 | 2,472 | 67,860 | 7,598 | 80,685 | 10,071 | 90,756 |

(a) Excludes drawings of working proprietors.

The ranking of factory classes according to salaries and wages paid in 1966-67 was: Class IV, 36 per cent; Class XII, 17 per cent; Class IX, 14 per cent; Class X, 11 per cent; Class VI, nine per cent.

The total amount of wages and salaries paid in Tasmania is shown in summary form with average amounts paid per employee:

Salaries and Wages Paid in Factories (a)

| Year | Males | | Females | | Persons | |
|--------------|--------|--------------|---------|--------------|---------|--------------|
| | Amount | Per Employee | Amount | Per Employee | Amount | Per Employee |
| 1956-57 .. . | \$'000 | \$ | \$'000 | \$ | \$'000 | \$ |
| 1956-57 .. . | 41,755 | 1,940 | 5,517 | 1,074 | 47,273 | 1,773 |
| 1962-63 .. . | 57,834 | 2,368 | 7,002 | 1,336 | 64,836 | 2,184 |
| 1963-64 .. . | 63,006 | 2,492 | 7,576 | 1,368 | 70,582 | 2,290 |
| 1964-65 .. . | 68,183 | 2,644 | 8,332 | 1,454 | 76,515 | 2,427 |
| 1965-66 .. . | 73,932 | 2,730 | 9,030 | 1,457 | 82,963 | 2,493 |
| 1966-67 .. . | 80,685 | 2,939 | 10,071 | 1,567 | 90,756 | 2,678 |

(a) Excludes drawings of working proprietors.

The relationship between salaries and wages, and other costs is shown in a subsequent section headed 'Relation of Costs to Output and Production'.

Costs of Manufacture (other than Salaries and Wages)

The next table has been compiled to summarise the various costs which are specified in the factory collection (apart from salaries and wages):

'Statistical' Costs of Manufacture Other Than Wages and Salaries (a)
(\$'000)

| Particulars | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|---------|
| Power, Fuel and Light Used .. | 9,244 | 13,959 | 15,768 | 17,676 | 18,453 | 19,026 |
| Water Used (Not as Power) .. | 165 | 296 | 404 | 448 | 501 | 554 |
| Lubricating Oils | 188 | 181 | 193 | 203 | 227 | 246 |
| Repairs and Replacements .. | 5,871 | 7,140 | 7,795 | 9,407 | 9,564 | 11,225 |
| Wrappers, Containers, Labels, etc. | 6,672 | 9,210 | 9,722 | 10,644 | 11,552 | 11,315 |
| Total (Excluding Materials Used) | 22,141 | 30,786 | 33,882 | 38,378 | 40,296 | 42,366 |
| Materials Used | 101,274 | 131,101 | 154,613 | 175,920 | 188,678 | 201,027 |
| Total 'Statistical' Costs (a) .. | 123,415 | 161,887 | 188,495 | 214,299 | 228,974 | 243,393 |

(a) Statistical' costs are restricted to those shown in the table and exclude items such as interest, rates and taxes, insurances, depreciation, etc.

As indicated in the above table, the two heaviest costs are those of power, fuel and light, and materials used in the manufacturing process. The following table shows the distribution of these costs and total costs as between the various classes of industry:

'Statistical' Costs of Manufacture in Classes of Industry, 1966-67
(\$'000)

| Class of Industry | Materials Used | Power, Fuel and Light | Other Costs (a) | Total 'Statistical' Costs |
|--|----------------|-----------------------------|-----------------------|---------------------------------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 5,275 | 816 | 580 | 6,670 |
| II. Bricks, Pottery, Glass, etc. | 455 | 355 | 128 | 938 |
| III. Chemicals, Dyes, etc. | 7,903 | 1,503 | 1,207 | 10,613 |
| IV. Industrial Metals, Machines, etc. .. | 66,266 | 9,553 | 5,427 | 81,246 |
| V. Precious Metals, Jewellery, Plate .. | 45 | 6 | 2 | 53 |
| VI. Textiles and Textile Goods (not Dress) | 18,560 | 577 | 1,209 | 20,346 |
| VII. Skins and Leather (not Clothing or Footwear) | 857 | 8 | 11 | 877 |
| VIII. Clothing (except Knitted) | 903 | 78 | 106 | 1,087 |
| IX. Food, Drink and Tobacco .. | 50,962 | 1,484 | 9,203 | 61,649 |
| X. Sawmills, Joinery, Boxes, etc. .. | 21,739 | 858 | 1,478 | 24,074 |
| XI. Furniture, Bedding, etc. | 2,389 | 30 | 47 | 2,466 |
| XII. Paper, Stationery, Printing, Binding, etc. | 24,507 | 3,685 | 3,019 | 31,211 |
| XIII. Rubber | 753 | 39 | 45 | 837 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 190 | 10 | 15 | 215 |
| Total Classes I to XV | 200,804 | 19,001 | 22,476 | 242,280 |
| XVI. Heat, Light and Power | 223 | 25 | 864 | 1,112 |
| Total All Classes | 201,027 | 19,026 | 23,340 | 243,393 |

(a) Water (not as power), lubricating oils, repairs and replacements, wrappers, containers, labels, etc.

The table below shows the expenditure on power, fuel and light analysed according to type:

**Cost of Power, Fuel and Light Used in Factories
(\$'000)**

| Year | Coal | Coke | Wood | Fuel Oil | Electricity | Gas | Other, Including Steam | Total |
|---------|-------|------|------|----------|-------------|-----|------------------------|--------|
| 1956-57 | 2,454 | 576 | 410 | 1,214 | 4,228 | 79 | 284 | 9,244 |
| 1962-63 | 1,962 | 666 | 192 | 2,425 | 7,953 | 85 | 676 | 13,959 |
| 1963-64 | 1,368 | 645 | 158 | 3,251 | 9,697 | 73 | 576 | 15,768 |
| 1964-65 | 1,085 | 578 | 132 | 3,634 | 11,522 | 76 | 649 | 17,676 |
| 1965-66 | 596 | 654 | 137 | 4,073 | 12,207 | 76 | 711 | 18,453 |
| 1966-67 | 545 | 727 | 111 | 4,167 | 12,742 | 94 | 640 | 19,026 |

As suggested by the above table, coal is not being used to the same extent as previously; in 1956-57, 240,396 tons were used, compared with 54,391 tons in 1966-67. By way of contrast, factory fuel oil consumption has increased from 7,338,000 gallons in 1956-57 to 57,117,986 gallons in 1966-67. The present importance of electricity for factories is underlined by the fact that its cost in 1966-67 represented 67 per cent of the total cost of power, fuel and light (in contrast with 1956-57 when it is represented only 46 per cent); in the same period, the rated horsepower of electric motors ordinarily in use in factories has increased more than 40 per cent but the major factor in the increased use of electrical power has been in metallurgical refining (electric furnaces and electrolytic recovery).

The next table shows, in summary form, the cost of power, fuel and light used in each class of industry for a five-year period:

**Cost of Power, Fuel and Light Used in Each Class of Industry
(\$'000)**

| Class of Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 911 | 911 | 1,046 | 963 | 816 |
| II. Bricks, Pottery, Glass, etc. | 320 | 337 | 336 | 347 | 355 |
| III. Chemicals, Dyes, etc. | 1,062 | 1,263 | 1,591 | 1,703 | 1,503 |
| IV. Industrial Metals, Machines, etc. | 5,772 | 7,369 | 8,414 | 8,663 | 9,553 |
| V. Precious Metals, Jewellery, Plate | 4 | 4 | 4 | 5 | 6 |
| VI. Textiles and Textile Goods (not Dress) | 492 | 530 | 542 | 547 | 577 |
| VII. Skins and Leather (not Clothing or Footwear) | 10 | 10 | 8 | 9 | 8 |
| VIII. Clothing (except Knitted) | 76 | 79 | 79 | 79 | 78 |
| IX. Food, Drink and Tobacco | 1,205 | 1,238 | 1,307 | 1,399 | 1,484 |
| X. Sawmills, Joinery, Boxes, etc. | 681 | 730 | 854 | 881 | 858 |
| XI. Furniture, Bedding, etc. | 18 | 21 | 23 | 23 | 30 |
| XII. Paper, Stationery, Printing, Binding, etc. | 3,337 | 3,207 | 3,402 | 3,760 | 3,685 |
| XIII. Rubber | 38 | 36 | 34 | 36 | 39 |
| XIV. Musical Instruments, etc. | .. | .. | .. | 11 | .. |
| XV. Miscellaneous Products | 6 | 7 | 9 | 11 | 10 |
| Total Classes I to XV | 13,932 | 15,742 | 17,650 | 18,429 | 19,001 |
| XVI. Heat, Light and Power | 27 | 26 | 25 | 24 | 25 |
| Total All Classes | 13,959 | 15,768 | 17,676 | 18,453 | 19,026 |

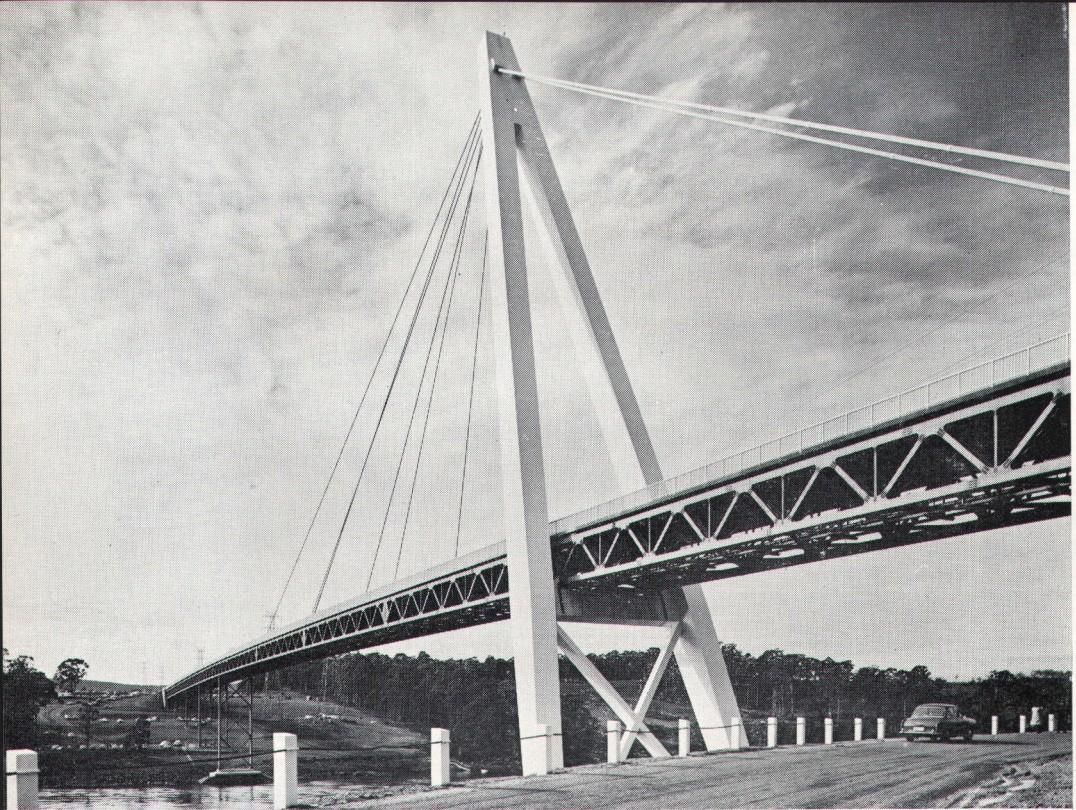
As indicated in the previous table, the total cost of power, fuel and light has increased \$5,067,000 (36 per cent) in the five-year period to 1966-67, and most of the rise can be accounted for in IV, the industrial metals group, where the cost has increased \$3,781,000 (66 per cent increase).



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Pipeline carrying iron ore 800 ft across the Savage River

(The Examiner)



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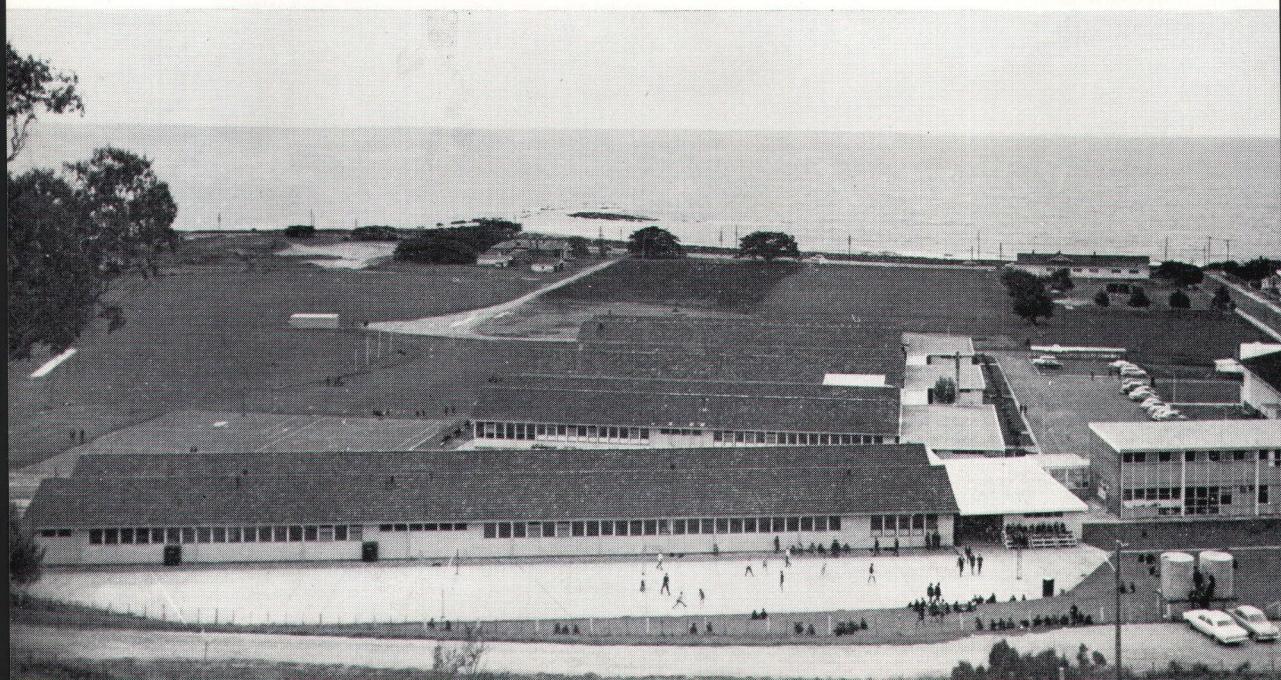
(Dept of Film Production)

The Batman Bridge, opened 1968

Burnie High School and playing fields on Bass Strait

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(Dept of Film Production)



The largest single cost in manufacturing is that of the materials used and the next table shows, in summary form, this cost in each class of industry for a five-year period:

**Cost of Materials Used in Each Class of Industry
(\$'000)**

| Class of Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 4,038 | 4,437 | 3,982 | 4,940 | 5,275 |
| II. Bricks, Pottery, Glass, etc. | 380 | 351 | 432 | 424 | 455 |
| III. Chemicals, Dyes, etc. | 5,006 | 5,438 | 6,366 | 6,911 | 7,903 |
| IV. Industrial Metals, Machines, etc. .. | 36,467 | 50,772 | 61,612 | 63,576 | 66,266 |
| V. Precious Metals, Jewellery, Plate .. | 24 | 32 | 34 | 37 | 45 |
| VI. Textiles and Textile Goods (not Dress) | 13,262 | 16,775 | 17,810 | 18,215 | 18,560 |
| VII. Skins and Leather (not Clothing or Footwear) | 803 | 630 | 826 | 701 | 857 |
| VIII. Clothing (except Knitted) | 788 | 799 | 937 | 979 | 903 |
| IX. Food, Drink and Tobacco | 35,567 | 37,127 | 41,569 | 45,928 | 50,962 |
| X. Sawmills, Joinery, Boxes, etc. .. | 15,738 | 16,805 | 18,465 | 20,545 | 21,739 |
| XI. Furniture, Bedding, etc. | 1,277 | 1,693 | 1,916 | 1,984 | 2,389 |
| XII. Paper, Stationery, Printing, Binding, etc. | 16,877 | 18,902 | 20,996 | 23,188 | 24,507 |
| XIII. Rubber | 473 | 475 | 521 | 627 | 753 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 115 | 102 | 153 | 330 | 190 |
| Total Classes I to XV | 130,815 | 154,338 | 175,621 | 188,384 | 200,804 |
| XVI. Heat, Light and Power | 286 | 275 | 299 | 294 | 223 |
| Total All Classes | 131,101 | 154,613 | 175,920 | 188,678 | 201,027 |

The total cost of materials used in manufacturing has risen \$69,926,000 (53 per cent) in the five-year period covered by the table. Class IV, the industrial metals group, has shown the largest increase.

Value of Output and Value of Production

Value of factory output by classes of industry for a five-year period is shown in the following table:

**Value of Factory Output
(\$ million)**

| Class of Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 10.03 | 10.58 | 10.38 | 11.68 | 11.75 |
| II. Bricks, Pottery, Glass, etc. | 2.19 | 2.26 | 2.58 | 2.58 | 2.68 |
| III. Chemicals, Dyes, etc. | 12.16 | 14.90 | 16.93 | 17.88 | 19.78 |
| IV. Industrial Metals, Machines, etc. .. | 92.14 | 110.66 | 128.85 | 134.91 | 150.04 |
| V. Precious Metals, Jewellery, Plate .. | 0.14 | 0.17 | 0.17 | 0.19 | 0.20 |
| VI. Textiles and Textile Goods (not Dress) | 24.58 | 28.70 | 32.90 | 32.35 | 33.45 |
| VII. Skins and Leather (not Clothing or Footwear) | 1.02 | 0.81 | 1.01 | 0.89 | 1.06 |
| VIII. Clothing (except Knitted) | 2.72 | 2.78 | 3.13 | 3.30 | 3.22 |
| IX. Food, Drink and Tobacco | 65.42 | 68.55 | 74.59 | 81.07 | 88.85 |
| X. Sawmills, Joinery, Boxes, etc. .. | 29.69 | 32.30 | 36.44 | 40.21 | 41.15 |
| XI. Furniture, Bedding, etc. | 2.59 | 3.24 | 3.58 | 3.71 | 4.54 |
| XII. Paper, Stationery, Printing, Binding, etc. | 46.83 | 50.41 | 53.72 | 57.86 | 61.37 |
| XIII. Rubber | 1.08 | 1.18 | 1.19 | 1.30 | 1.55 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 0.43 | 0.39 | 0.51 | 0.77 | 0.64 |
| Total Classes I to XV | 291.02 | 326.93 | 365.97 | 388.71 | 420.28 |
| XVI. Heat, Light and Power | 12.91 | 14.13 | 15.58 | 15.88 | 17.68 |
| Total All Classes | 303.92 | 341.06 | 381.55 | 404.58 | 437.96 |

In the section dealing with the definitions used in factory statistics, it was indicated that value of output is not a satisfactory indicator for making year-to-year comparisons or for making comparisons between classes of industry. To the extent that the finished article from one industry may become a material for use in the manufacturing process of another industry, values of output are likely to be inflated by 'double-counting'. Cardboard boxes and containers, for example, are a finished product of Class XII but they may be used to pack the products of industries in most other classes; similarly, electric power is a final output from Class XVI but is also taken into all other industry classes as a cost of production. For these and other considerations, the better measure for purposes of comparison is undoubtedly value of production, (i.e. value of output less 'statistical' costs but with no deduction of wages and salaries).

The next table shows the value of production in Tasmanian factories for a five-year period:

**Value of Factory Production
(\$ million)**

| Class of Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 4.54 | 4.77 | 4.86 | 5.21 | 5.08 |
| II. Bricks, Pottery, Glass, etc. | 1.36 | 1.43 | 1.64 | 1.69 | 1.74 |
| III. Chemicals, Dyes, etc. | 5.18 | 7.15 | 7.88 | 8.15 | 9.17 |
| IV. Industrial Metals, Machines, etc. | 46.72 | 49.25 | 54.50 | 58.17 | 68.79 |
| V. Precious Metals, Jewellery, Plate | 0.12 | 0.13 | 0.13 | 0.14 | 0.15 |
| VI. Textiles and Textile Goods (not Dress) | 9.99 | 10.50 | 13.48 | 12.46 | 13.11 |
| VII. Skins and Leather (not Clothing or Footwear) | 0.20 | 0.16 | 0.16 | 0.17 | 0.19 |
| VIII. Clothing (except Knitted) | 1.79 | 1.82 | 2.02 | 2.13 | 2.14 |
| IX. Food, Drink and Tobacco | 21.26 | 22.47 | 23.17 | 24.42 | 27.20 |
| X. Sawmills, Joinery, Boxes, etc. | 12.26 | 13.58 | 15.67 | 17.32 | 17.08 |
| XI. Furniture, Bedding, etc. | 1.28 | 1.47 | 1.60 | 1.66 | 2.07 |
| XII. Paper, Stationery, Printing, Binding, etc. | 24.35 | 25.72 | 26.52 | 28.03 | 30.15 |
| XIII. Rubber | 0.54 | 0.64 | 0.59 | 0.60 | 0.72 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 0.30 | 0.27 | 0.33 | 0.41 | 0.42 |
| Total Classes I to XV | 129.89 | 139.36 | 152.56 | 160.57 | 178.00 |
| XVI. Heat, Light and Power | 12.14 | 13.21 | 14.69 | 15.03 | 16.57 |
| Total All Classes | 142.03 | 152.57 | 167.25 | 175.61 | 194.57 |

The value of production for all factories has risen by 37 per cent in the period covered by the table. Corresponding increases in 'added value' for individual classes are: IV, the industrial metals group, 47 per cent; VI, the textiles group, 31 per cent; IX, the food processing group, 28 per cent; X, the sawmilling group, 39 per cent; XII, the paper making group, 24 per cent; and XVI, the power group, 36 per cent.

The class of industry showing the greatest percentage increase was Class III, chemicals, dyes, etc., 77 per cent.

Relation of Costs to Output and Production

The costs data collected from factories are not complete but cover major items such as materials used; power, fuel and light; lubricants, water and containers, etc. The following table summarises these costs for each class of industry and gives the balance remaining after such costs, together with salaries and wages, have been deducted from the value of output. The balance so

obtained for each industry is the fund available to provide for all other costs and overhead expenses such as rent, interest, insurance, pay-roll tax, income tax, depreciation, etc., as well as drawings by working proprietors and profit.

Factory Costs, Output and Residual Balance, 1966-67

($\$'000$)

| Class of Industry | Specified Costs of Production | | | Balance between Value of Output and Specified Costs (b) | Value of Output |
|--|-------------------------------|-------------------------------|--------------------|---|-----------------|
| | Materials Used | Other 'Statistical' Costs (a) | Salaries and Wages | | |
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 5,275 | 1,395 | 2,466 | 2,609 | 11,745 |
| II. Bricks, Pottery, Glass, etc. | 455 | 483 | 925 | 817 | 2,680 |
| III. Chemicals, Dyes, etc. | 7,903 | 2,710 | 3,463 | 5,702 | 19,778 |
| IV. Industrial Metals, Machines, etc. .. | 66,266 | 14,980 | 32,839 | 35,956 | 150,041 |
| V. Precious Metals, Jewellery, Plate .. | 45 | 8 | 83 | 65 | 201 |
| VI. Textiles and Textile Goods (not Dress) | 18,560 | 1,786 | 8,455 | 4,651 | 33,452 |
| VII. Skins and Leather (not Clothing or Footwear) | 857 | 20 | 116 | 69 | 1,062 |
| VIII. Clothing (except Knitted) | 903 | 184 | 1,148 | 990 | 3,225 |
| IX. Food, Drink and Tobacco | 50,962 | 10,687 | 12,886 | 14,311 | 88,846 |
| X. Sawmills, Joinery, Boxes, etc. .. | 21,739 | 2,336 | 9,549 | 7,532 | 41,155 |
| XI. Furniture, Bedding, etc. | 2,389 | 77 | 1,142 | 932 | 4,540 |
| XII. Paper, Stationery, Printing, Binding, etc. | 24,507 | 6,704 | 15,613 | 14,542 | 61,365 |
| XIII. Rubber | 753 | 84 | 361 | 357 | 1,555 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 190 | 26 | 278 | 142 | 636 |
| Total Classes I to XV | 200,804 | 41,477 | 89,323 | 88,676 | 420,280 |
| XVI. Heat, Light and Power | 223 | 889 | 1,433 | 15,139 | 17,684 |
| Total All Classes | 201,027 | 42,366 | 90,756 | 103,815 | 437,964 |

(a) Power, fuel, light, water, lubricating oil, repairs and replacements, wrappers, containers, labels, etc.

(b) Balance available for costs and charges not specified on the factory form and for profit (including drawings by working proprietors).

The *value of production* does not appear in the above table but can be calculated by subtracting 'materials used' and other 'statistical' costs from the value of output.

There are considerable variations in the proportions which the cost of materials and the expenditure on wages bear to the value of output in the various classes of industry. These are, of course, due to the difference in treatment required to convert the materials to their final form. Class XVI, heat, light and power, obviously constitutes a major deviation from all other classes of industry; the major component in this class is hydro-electric power production characterised by heavy capital expenditure and extremely light operational costs since the basic 'raw material' is water. The comparatively large residual balance attributable to Class XVI is required to meet a heavy burden in interest and depreciation charges associated with the substantial outlay of capital which created the water storages and generating capacity.

In the following table, the previous data on costs and residual balances have been converted to percentages of the value of output for each class of industry:

**Factory Costs and Residual Balance as Proportion of Value of Output, 1966-67
(Per Cent)**

| Class of Industry | Specified Costs of Production | | | Balance between Value of Output and Specified Costs | Value of Output |
|--|-------------------------------|---------------------------|--------------------|---|-----------------|
| | Materials Used | Other 'Statistical' Costs | Salaries and Wages | | |
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 44.9 | 11.9 | 21.0 | 22.2 | 100.0 |
| II. Bricks, Pottery, Glass, etc | 17.0 | 18.0 | 34.5 | 30.5 | 100.0 |
| III. Chemicals, Dyes, etc. | 40.0 | 13.7 | 17.5 | 28.8 | 100.0 |
| IV. Industrial Metals, Machines, etc. .. | 44.2 | 10.0 | 21.9 | 24.0 | 100.0 |
| V. Precious Metals, Jewellery, Plate .. | 22.4 | 4.0 | 41.3 | 32.3 | 100.0 |
| VI. Textiles and Textile Goods (not Dress) | 55.5 | 5.3 | 25.3 | 13.9 | 100.0 |
| VII. Skins and Leather (not Clothing or Footwear) | 80.7 | 1.9 | 10.9 | 6.5 | 100.0 |
| VIII. Clothing (except Knitted) | 28.0 | 5.7 | 35.6 | 30.7 | 100.0 |
| IX. Food, Drink and Tobacco | 57.4 | 12.0 | 14.5 | 16.1 | 100.0 |
| X. Sawmills, Joinery, Boxes, etc. .. | 52.8 | 5.7 | 23.2 | 18.3 | 100.0 |
| XI. Furniture, Bedding, etc. | 52.6 | 1.7 | 25.2 | 20.5 | 100.0 |
| XII. Paper, Stationery, Printing, Binding, etc. | 39.9 | 10.9 | 25.4 | 23.7 | 100.0 |
| XIII. Rubber | 48.4 | 5.4 | 23.2 | 23.0 | 100.0 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 29.9 | 4.1 | 43.7 | 22.3 | 100.0 |
| Total Classes I to XV .. | 47.8 | 9.9 | 21.3 | 21.1 | 100.0 |
| XVI. Heat, Light and Power | 1.3 | 5.0 | 8.1 | 85.6 | 100.0 |
| Total All Classes | 45.9 | 9.7 | 20.7 | 23.7 | 100.0 |

The next table has been compiled to summarise total specified costs of production, residual balances and value of output:

Total Factory Costs, Output and Residual Balance

| Year | Specified Costs of Production | | | Balance between Value of Output and Specified Costs (b) | Value of Output |
|----------------|-------------------------------|-------------------------------|--------------------|---|-----------------|
| | Materials Used | Other 'Statistical' Costs (a) | Salaries and Wages | | |
| VALUE (\$'000) | | | | | |
| 1961-62 | 126,128 | 29,545 | 61,440 | 66,434 | 283,547 |
| 1962-63 | 131,101 | 30,786 | 64,836 | 77,198 | 303,920 |
| 1963-64 | 154,613 | 33,882 | 70,582 | 81,988 | 341,065 |
| 1964-65 | 175,920 | 38,379 | 76,515 | 90,735 | 381,549 |
| 1965-66 | 188,678 | 40,296 | 82,963 | 92,644 | 404,581 |
| 1966-67 | 201,027 | 42,366 | 90,756 | 103,815 | 437,964 |

Total Factory Costs, Output and Residual Balance—*continued*

| Year | Specified Costs of Production | | | Balance between Value of Output and Specified Costs (b) | Value of Output |
|--|-------------------------------|-------------------------------------|--------------------------|--|-----------------------|
| | Materials Used | Other 'Statistical' Costs (a) | Salaries and Wages | | |
| PROPORTION OF VALUE OF OUTPUT (PER CENT) | | | | | |
| 1961-62 | 44.5 | 10.4 | 21.7 | 23.4 | 100.0 |
| 1962-63 | 43.1 | 10.1 | 21.3 | 25.4 | 100.0 |
| 1963-64 | 45.4 | 9.9 | 20.7 | 24.0 | 100.0 |
| 1964-65 | 46.1 | 10.1 | 20.0 | 23.8 | 100.0 |
| 1965-66 | 46.6 | 10.0 | 20.5 | 22.9 | 100.0 |
| 1966-67 | 45.9 | 9.7 | 20.7 | 23.7 | 100.0 |

(a) Power, fuel, light, water, lubricating oils, repairs and replacements, wrappers, containers, labels, etc.

(b) Balance available for costs and charges not specified on the factory form and for profit (including drawings by working proprietors).

Land, Buildings, Plant and Machinery

The values recorded in this section are generally the *values shown in the books* of the individual firms after allowance has been made for depreciation, but they include estimates of the capital value of rented premises and plant. The totals shown in the tables consequently do not represent the actual amount of capital invested in industry and are largely influenced by individual accounting methods and policies in use at a given point in time.

Where land and buildings, etc. and plant and machinery, etc. are rented by occupiers of factories, their capital value has been computed by capitalising the rent paid at fifteen years' and ten years' purchase respectively.

The table that follows shows the value of land and buildings used in connection with the various classes of manufacturing industries for a five-year period. Excluding Class XVI which is a special case because of its coverage of hydro-electric power generation, it will be seen that the value of land and buildings is greatest in Class IV (\$32.88m), Class IX (\$20.00m) and Class XII (\$14.09m). An examination of the value of plant and machinery in a subsequent table shows the same classes as the three most prominent, namely Class IV (\$45.79m), Class XII (\$22.95m) and Class IX (\$18.02m). Associated with Class IV are major establishments at George Town, Risdon and Mt Lyell all concerned with the extraction and refining of metals (aluminium, ferromanganese alloys, zinc and copper). Included in Class XII are major establishments at Burnie, Boyer and Geeveston, producing fine paper, newsprint and paper pulp. Class IX includes the northern and southern breweries, a major confectionery factory and a variety of large food-processing establishments.

A high level of investment in plant and machinery and in land and buildings normally can be correlated with a high level of employment, for particular classes of industry. Class X, the sawmilling group, appears to be an exception to this rule; employment in this class is not significantly lower than for IX, the food group, or XII, the paper group, but the value of land, plant, etc. is very much less in X than in IX or XII.

**Value at 30 June of Land and Buildings in Each Class of Industry
(\$ million)**

| Class of Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 1.57 | 1.64 | 1.78 | 1.72 | 1.88 |
| II. Bricks, Pottery, Glass, etc. | 0.85 | 1.03 | 1.14 | 1.23 | 1.29 |
| III. Chemicals, Dyes, etc. | 2.79 | 3.01 | 3.17 | 3.56 | 3.65 |
| IV. Industrial Metals, Machines, etc. | 26.76 | 28.95 | 30.23 | 31.19 | 32.88 |
| V. Precious Metals, Jewellery, Plate | 0.14 | 0.14 | 0.17 | 0.14 | 0.15 |
| VI. Textiles and Textile Goods (not Dress) | 3.21 | 3.52 | 4.35 | 4.55 | 4.47 |
| VII. Skins and Leather (not Clothing or Footwear) | 0.08 | 0.08 | 0.07 | 0.06 | 0.06 |
| VIII. Clothing (except Knitted) | 1.60 | 1.70 | 1.85 | 1.80 | 1.76 |
| IX. Food, Drink and Tobacco | 15.13 | 16.58 | 17.74 | 18.88 | 20.00 |
| X. Sawmills, Joinery, Boxes, etc. | 3.97 | 4.62 | 5.22 | 5.81 | 6.17 |
| XI. Furniture, Bedding, etc. | 0.84 | 0.99 | 1.10 | 1.12 | 1.42 |
| XII. Paper, Stationery, Printing, Binding, etc. | 12.96 | 12.98 | 13.12 | 13.72 | 14.09 |
| XIII. Rubber | 0.79 | 0.87 | 0.69 | 0.72 | 0.79 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 0.24 | 0.25 | 0.37 | 0.44 | 0.42 |
| Total Classes I to XV | 70.93 | 76.36 | 81.00 | 84.93 | 89.04 |
| XVI. Heat, Light and Power | 92.99 | 92.04 | 128.01 | 126.99 | 144.94 |
| Total All Classes | 163.92 | 168.40 | 209.01 | 211.92 | 233.98 |

It will be observed that the value of land and buildings associated with XVI, heat, light and power, is greater than the corresponding total value for all other factory classes. The chief component of XVI—hydro-electric power generation—has involved the creation of extensive dams, storages and flumes and the book value of such installations is included under 'land and buildings'; the actual generating plant, however, is included under 'plant and machinery'.

The next table shows the value of plant and machinery in each class of industry for a five-year period:

**Value at 30 June of Plant and Machinery in Each Class of Industry
(\$ million)**

| Class of Industry | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| I. Treatment of Non-Metalliferous Mine and Quarry Products | 2.65 | 2.49 | 2.56 | 3.95 | 8.55 |
| II. Bricks, Pottery, Glass, etc. | 0.61 | 0.61 | 0.69 | 0.79 | 0.89 |
| III. Chemicals, Dyes, etc. | 5.88 | 6.66 | 7.43 | 7.71 | 7.48 |
| IV. Industrial Metals, Machines, etc. | 39.09 | 39.89 | 40.59 | 40.71 | 45.79 |
| V. Precious Metals, Jewellery, Plate | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 |
| VI. Textiles and Textile Goods (not Dress) | 5.27 | 6.65 | 8.84 | 8.22 | 8.07 |
| VII. Skins and Leather (not Clothing or Footwear) | 0.05 | 0.04 | 0.04 | 0.04 | 0.04 |
| VIII. Clothing (except Knitted) | 0.78 | 0.82 | 0.68 | 0.63 | 0.62 |
| IX. Food, Drink and Tobacco | 13.75 | 14.60 | 15.09 | 16.62 | 18.02 |
| X. Sawmills, Joinery, Boxes, etc. | 4.54 | 5.97 | 6.78 | 7.65 | 7.50 |
| XI. Furniture, Bedding, etc. | 0.22 | 0.23 | 0.21 | 0.25 | 0.34 |
| XII. Paper, Stationery, Printing, Binding, etc. | 27.00 | 26.07 | 25.55 | 25.23 | 22.95 |
| XIII. Rubber | 0.26 | 0.28 | 0.26 | 0.30 | 0.25 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products | 0.06 | 0.06 | 0.23 | 0.33 | 0.37 |
| Total Classes I to XV | 100.19 | 104.40 | 108.99 | 112.47 | 120.91 |
| XVI. Heat, Light and Power | 37.74 | 37.25 | 46.35 | 46.20 | 48.25 |
| Total All Classes | 137.93 | 141.65 | 155.34 | 158.67 | 169.16 |

Additions, Replacements and Depreciation Allowed

In stating the current book value of land and buildings and of plant and machinery, each factory proprietor is required to complete a reconciliation along the following lines:

| | Land and Buildings | Plant and Machinery |
|---|--------------------|---------------------|
| | \$ | \$ |
| (i) Book value at beginning of year .. | | |
| <i>Plus</i> (ii) Additions and replacements during year | | |
| <i>Less</i> (iii) Depreciation allowed during year | | |
| <i>Less</i> (iv) Sales and losses by fire, etc., during year | | |
| (±) (v) Adjustment due to revaluation | | |
| (vi) Book value at end of year | | |
| (vii) Book value at end of year | | |

If no proprietors used rented land and buildings or rented plant and machinery, then the totals for the items 'additions and replacements' and 'depreciation allowed' would give a complete record of these important capital items in the factory sector. However, factory proprietors who rent premises or plant are simply required to report the annual rental and, to this extent, the totals for additions and replacements, and depreciation allowed, are incomplete since they refer only to land, buildings, plant and machinery owned by the factory proprietor. In 1966-67, 7.9 per cent of the value of land and buildings comprised rentals capitalised at 15 years' purchase and 2.7 per cent of the value of plant and machinery comprised rentals capitalised at 10 years' purchase. The following table summarises additions and replacements and depreciation allowed:

Factories—Reported Additions, Replacements and Depreciation Allowed
(\$ million)

| Year | Land and Buildings | | | Plant and Machinery | | |
|------------|---|---------------------------------|--|---|---------------------------------|--|
| | Additions and Replacements (Excluding Rented) | Depreciation (Excluding Rented) | Book Value, 30 June (Including Rented) | Additions and Replacements (Excluding Rented) | Depreciation (Excluding Rented) | Book Value, 30 June (Including Rented) |
| 1956-57 .. | 19.16 | 0.93 | 112.95 | 16.03 | 5.55 | 89.67 |
| 1957-58 .. | 3.54 | 1.52 | 118.91 | 10.61 | 6.51 | 93.72 |
| 1958-59 .. | 4.53 | 1.66 | 123.66 | 8.70 | 7.19 | 96.45 |
| 1959-60 .. | 21.05 | 1.77 | 144.02 | 17.39 | 7.70 | 107.31 |
| 1960-61 .. | 4.33 | 1.83 | 147.10 | 13.69 | 8.50 | 112.63 |
| 1961-62 .. | 13.93 | 1.86 | 159.15 | 19.16 | 9.01 | 121.59 |
| 1962-63 .. | 4.92 | 1.91 | 163.92 | 24.60 | 10.19 | 137.93 |
| 1963-64 .. | 4.77 | 2.16 | 168.40 | 15.04 | 11.65 | 141.65 |
| 1964-65 .. | 41.35 | 2.22 | 209.01 | 24.62 | 11.78 | 155.34 |
| 1965-66 .. | 4.79 | 2.45 | 211.92 | 17.69 | 12.09 | 158.67 |
| 1966-67 .. | 24.53 | 2.67 | 233.98 | 25.30 | 12.74 | 169.16 |

Power Equipment in Factories**General**

Since 1936-37, statistics of power equipment in factories relate to the 'rated horsepower' of engines ordinarily in use and engines in reserve or idle, omitting obsolete engines. In addition, particulars of the power equipment of central electric stations are collected in greater detail. Since the central electric stations supply part of their power output to factories and since they are themselves classified as factories, it is necessary to make a clear distinction between engines in the stations and engines in all other types of factory, otherwise duplication may occur. In the following tables, central electric stations have been treated separately from other factories.

Rated Horse-power of Engines in Factories Other Than Central Electric Stations

The following table shows the types of engines and motors employed in each class of industry, also the horsepower rating related to each type:

Factories, Excluding Central Electric Stations—**Types and Power Rating of Engines in Each Class of Industry, 1966-67**

| Class of Industry | Rated Horsepower of Engines and Motors Ordinarily in Use— | | | | Rated HP of Engines in Reserve or Idle (excluding Obsolete Engines) |
|--|--|-----------------------------|---|--------------|---|
| | Steam | Internal Combust- ion | Motors Driven by Purchased Electricity | Total (a) | |
| I. Treatment of Non-Metalliferous Mine and Quarry Products | .. | 137 | 21,650 | 21,787 | 1,556 |
| II. Bricks, Pottery, Glass, etc. | .. | .. | 3,735 | 3,735 | 1,007 |
| III. Chemicals, Dyes, etc. .. | 15 | 142 | 20,300 | 20,457 | 4,331 |
| IV. Industrial Metals, Machines, etc. | .. | 428 | 66,621 | 67,049 | 17,375 |
| V. Precious Metals, Jewellery, Plate | 6 | .. | 125 | 131 | 10 |
| VI. Textiles and Textile Goods (not Dress) | .. | .. | 12,054 | 12,054 | 1,319 |
| VII. Skins and Leather (not Clothing or Footwear) .. | .. | .. | 485 | 485 | 15 |
| VIII. Clothing (except Knitted) | 12 | 1 | 922 | 935 | 57 |
| IX. Food, Drink and Tobacco | 111 | 768 | 34,278 | 35,157 | 2,892 |
| X. Sawmills, Joinery, Boxes, etc. | 825 | 8,149 | 50,735 | 59,709 | 2,625 |
| XI. Furniture, Bedding, etc... | .. | .. | 1,967 | 1,967 | 32 |
| XII. Paper, Stationery, Printing, Binding, etc. .. | 30 | .. | 115,467 | 115,497 | 19,662 |
| XIII. Rubber | 5 | .. | 546 | 551 | 51 |
| XIV. Musical Instruments, etc. | .. | .. | .. | .. | .. |
| XV. Miscellaneous Products.. | .. | .. | 456 | 456 | 12 |
| Total Classes I to XV .. | 1,004 | 9,625 | 329,341 | 339,970 | 50,944 |
| XVI. Heat, Light and Power .. | 6 | .. | 120 | 126 | 55 |
| Total All Classes .. | 1,010 | 9,625 | 329,461 | 340,096 | 50,999 |

(a) Excludes motors driven by electricity of own generation.

The total rated horsepower of engines and motors ordinarily in use as shown in the previous table is free from duplication since electric motors driven by power from a factory's own generation are excluded. The same freedom from duplication is not possible in relation to the power rating of reserve engines and motors, the figures shown being simply unadjusted totals of reported capacity. In 1966-67, motors ordinarily in use and driven by electricity were rated at 329,461 horsepower using purchased electricity and only 668 horsepower using electricity of own generation. As indicated by the previous table, the class with the greatest horsepower rating of electric motors is Class XII, paper making, etc. This does not necessarily imply that Class XII uses most electricity since power is employed industrially for purposes other than the driving of machinery, e.g. for electrolytic processes. In actual fact, Class IV, industrial metals, etc., consumes more electricity than Class XII.

The table that follows summarises the types and power capacity of engines and motors in Tasmanian factories over a ten-year period:

**Factories, Excluding Central Electric Stations—
Types and Power Rating of Engines**

| Year | Rated Horsepower of Engines and Motors Ordinarily in Use | | | | | | Rated HP of Engines in Reserve or Idle (ex- cluding Obsolete Engines) (b) | |
|------------|--|--------------|----------------------------------|-------|---------------------------------|------------------------|--|--------|
| | Steam | | Internal Com- bus- tion | Water | Motors Driven by Electricity | | | |
| | Recip- rocating | Tur- bine | | | Purch- ased | Own Genera- tion | | |
| 1956-57 .. | 1,533 | 3 | 10,834 | 192 | 225,405 | 3 | 237,967 | 32,765 |
| 1962-63 .. | 1,040 | .. | 11,504 | .. | 290,198 | 273 | 302,742 | 43,298 |
| 1963-64 .. | 612 | .. | 11,747 | .. | 302,277 | 281 | 314,636 | 46,830 |
| 1964-65 .. | 547 | .. | 13,112 | .. | 308,521 | 280 | 322,180 | 47,449 |
| 1965-66 .. | 658 | .. | 10,185 | .. | 319,187 | 689 | 330,030 | 49,419 |
| 1966-67 .. | 1,010 | .. | 9,625 | .. | 329,461 | 668 | 340,096 | 50,999 |

(a) Excludes electric motors driven by power of own generation; includes gas driven engines not specified in table.

(b) Includes all electric motors in reserve.

Central Electric Stations

The generation of hydro-electric power in Tasmania is sufficiently important to warrant detailed treatment in its own right but the Commonwealth uniform definition of factory establishments classifies producers of 'electric light and power' as a sub-class of XVI, heat, light and power, and therefore a short account of the central electric stations is included at this point. A more detailed description of government electricity generation will be found in the section, 'Hydro-Electric Power', further on in this chapter.

In 1966-67, the horsepower rating (or installed capacity) of generators in the Tasmanian central electric power stations was 1,212,180 horsepower; of this total, 1,211,360 horsepower was associated with turbines driven by water and 820 horsepower with internal combustion engines. The following table summarises the main power characteristics of the central electric stations (with horsepower equivalents for kilowatt measures):

Central Electric Stations (a)—Power Rating Characteristics of Generators

| Description | Unit | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------|------|---------|-----------|-----------|-----------|-----------|
| Total Installed Capacity .. | kW | 628,530 | 767,990 | 818,990 | 819,176 | 860,710 |
| | hp | 884,934 | 1,078,034 | 1,149,634 | 1,150,874 | 1,212,180 |
| Effective Capacity .. | kW | 625,700 | 765,160 | 816,160 | 816,290 | 857,790 |
| | hp | 879,914 | 1,072,970 | 1,144,570 | 1,145,740 | 1,207,030 |
| Maximum Load .. | kW | 560,619 | 576,604 | 597,044 | 634,338 | 631,250 |
| | hp | 778,276 | 800,477 | 828,870 | 880,668 | 876,352 |

(a) Not only Hydro-Electric Commission; see the following paragraph.

In 1966-67, there were 15 establishments classed as central electric stations, 13 government and two 'company'. The only establishment using internal combustion engines was located on King Island where the capacity for generation by water-power is almost non-existent. The government-owned stations, apart from an internal combustion unit on King Island, all derived power from water and formed part of an integrated generation, transmission and distribution system serving the whole State. In the continental States, by way of contrast, the predominant method of generating electric power is by the steam turbine although hydro-electric generation is being extended.

Principal Articles Manufactured

The next table lists the principal articles manufactured in Tasmania, irrespective of the sub-class of industry in which production took place. In several cases, however, where there are only one or two producers or where one producer dominates, it is not possible to publish details for articles that are important and would otherwise appear in the table. To give some indication of changes in production, quantity details are given for 1938-39, 1959-60 and 1966-67, but values are shown only for 1966-67.

Principal Articles Manufactured

| Article | Unit of Quantity | Quantity | | | Value 1966-67 (\$'000) |
|----------------------------------|------------------------|----------|---------|---------|------------------------------|
| | | 1938-39 | 1959-60 | 1966-67 | |
| Acid, Sulphuric (100 per cent) | ton | 14,158 | 127,038 | 207,865 | (a) |
| Aerated Waters | '000 gal | 338 | 1,838 | 2,548 | 1,571 |
| Bacon and Ham | '000 lb | 1,935 | 2,562 | 1,242 | 1,816 |
| Bran and Pollard | short ton | 8,939 | 13,201 | 11,190 | 529 |
| Bread (2 lb loaf equivalents) .. | '000 | 11,337 | 27,175 | 28,086 | 4,397 |
| Bricks, Clay | '000 | 14,541 | 23,975 | 22,100 | 1,015 |
| Butter (b) | ton | 4,053 | 11,744 | 14,311 | 11,793 |
| Cadmium, Refined | lb | 385,287 | 567,967 | 741,966 | (a) |
| Cakes, Pastry, Pies | .. | .. | .. | .. | 2,046 |
| Cases, Fruit | '000 | 3,143 | 4,081 | 2,186 | 673 |
| Cheese | ton | 1,420 | 328 | 3,762 | 2,209 |
| Copper, Blister | ton | (c) | (c) | 14,627 | (a) |
| Electricity, Total Generated .. | m kWh | 567 | 2,532 | 4,119 | (a) |
| Fertilisers— | | | | | |
| Sulphate of Ammonia | ton | .. | 57,601 | 57,499 | (a) |
| Superphosphate | ton | 30,086 | 102,613 | 164,123 | (a) |
| Plaster Sheets | sq yd | 120,678 | 778,522 | 496,724 | 460 |
| Flour | short ton | 19,582 | 30,872 | 26,974 | 2,300 |

Principal Articles Manufactured—*continued*

| Article | Unit of Quantity | Quantity | | | Value 1966-67 (\$'000) |
|----------------------------------|------------------------|----------|---------|---------|------------------------------|
| | | 1938-39 | 1959-60 | 1966-67 | |
| Fruits, Canned or Bottled— | | | | | |
| Apples, Solid Pack | '000 lb | 2,313 | 16,584 | 13,120 | 1,298 |
| Berry Fruits | '000 lb | 918 | 2,944 | 994 | 209 |
| Fruit | | | | | |
| Dehydrated and Evaporated | | | | | |
| Apples | '000 lb | 762 | 558 | 796 | 225 |
| Furniture, Wooden | .. | .. | .. | .. | 2,427 |
| Joinery (Excluding Doors) .. | .. | .. | .. | .. | 3,644 |
| Mattresses, Woven Wire .. | no. | 3,386 | 7,286 | (a) | (a) |
| Paper, Newsprint | ton | .. | 88,510 | 97,255 | 13,365 |
| Structural Steel Fabricated .. | ton | (a) | 10,154 | 11,811 | 3,467 |
| Tallow | '000 lb | 1,694 | 7,699 | 11,255 | 721 |
| Timber (Sawn, Peeled or Sliced)— | | | | | |
| Hardwood (d) | '000 sup ft | 83,499 | 164,895 | 170,075 | 15,752 |
| Softwood (d) | '000 sup ft | 1,529 | 4,764 | 4,319 | 621 |
| Dressed Timber— | | | | | |
| Floorboards | '000 sup ft | 5,124 | 29,511 | 33,123 | 6,073 |
| Weatherboards | '000 sup ft | 1,911 | 3,743 | 3,054 | 502 |
| Other | '000 sup ft | 1,165 | 15,979 | 20,672 | 4,065 |
| Tyres, Retreaded and Recapped | | | | | |
| Zinc, Refined | no. | 10,650 | 81,820 | 122,609 | (c) |
| | ton | 69,825 | 117,893 | 143,917 | (a) |

(a) Not available for publication.

(b) Includes butter equivalent of butter oil.

(c) Not available.

(d) Includes timber to be further processed.

The articles just listed do not include the following important Tasmanian products: aluminium, automotive engine bearings, carbide, cement, confectionery, welding electrodes, ferro-manganese alloys, hand tools, hardboard, particle board, printing, writing and wrapping papers, titanium di-oxide, canned, dehydrated and quick frozen vegetables, wood pulp, woollen manufactures and other textile products. An unusual unlisted product is sodium alginate made from seaweed kelp.

Individual Industries

The items given for each industry are defined as follows:

| | |
|----------------------------------|---|
| Rating of Engines and Motors .. | engines and motors driving factory machinery and ordinarily in use. |
| Average Number of Workers .. | average whole year, including working proprietors. |
| Salaries and Wages Paid .. | excludes amounts drawn by working proprietors. |
| Other Costs of Manufacture .. | cost of power, fuel, light, water, lubricating oils, containers, etc., tools replaced, repairs to plant (but not depreciation charges). |
| Value of Production .. | value of output less 'statistical' costs, other than labour, (i.e. less cost of materials and 'other costs of manufacture', as just defined). |
| Value of Land, Machinery, etc... | at 30 June; includes estimated value for rented premises and machinery. |

Secondary Industry—Manufacturing

Selected Individual Industries, 1966-67

| Particulars | Unit | I-5 | I-9 | II-1 | IV-3 | IV-5 |
|------------------------------|--------|------------------------------|--------------------|------------------|--------------------------------|---|
| | | Fibrous Plaster and Products | Other Cement Goods | Bricks and Tiles | Plant, Equipment and Machinery | Extracting and Refining, Non-ferrous Metals (a) |
| Factories .. . | no. | 10 | 34 | 11 | 40 | 4 |
| Rating of Engines and Motors | hp | 143 | 2,146 | 2,479 | 2,726 | 46,380 |
| Average Workers .. . | no. | 63 | 243 | 189 | 1,290 | 3,565 |
| Salaries and Wages Paid .. | \$'000 | 170 | 711 | 503 | 3,537 | 12,860 |
| Cost of Materials Used .. | \$'000 | 267 | 4,059 | 137 | 3,359 | 42,262 |
| Other Costs of Manufacture | \$'000 | 14 | 164 | 330 | 250 | 12,982 |
| Value of Output | \$'000 | 561 | 6,262 | 1,366 | 8,877 | 91,473 |
| Value of Production | \$'000 | 281 | 2,039 | 900 | 5,268 | 36,230 |
| Value of Land and Buildings | \$'000 | 175 | 563 | 655 | 2,745 | 13,823 |
| Value of Plant and Machinery | \$'000 | 26 | 995 | 642 | 1,018 | 38,973 |

(a) Includes aluminium, cadmium, copper, ferro-manganese alloy and zinc.

Individual Industries, 1966-67—continued

| Particulars | Unit | IV-7 | IV-10 | IV-22 | IV-24 | VI-3 |
|------------------------------|--------|---|-----------------------|-------------------------------------|--|---------------------------------|
| | | Tramcar and Railway Workshops, Government (a) | Motor Vehicle Repairs | Non-Ferrous Founding, Casting, etc. | Sheet Working, Metal Pressing and Stamping | Wool Carding, Spinning, Weaving |
| Factories .. . | no. | 4 | 353 | 9 | 31 | 4 |
| Rating of Engines and Motors | hp | 3,106 | 2,633 | 422 | 900 | 8,168 |
| Average Workers .. . | no. | 611 | 2,095 | 138 | 404 | 2,667 |
| Salaries and Wages Paid .. | \$'000 | 1,343 | 4,259 | 295 | 842 | 5,124 |
| Cost of Materials Used .. | \$'000 | 574 | 4,690 | 432 | 2,468 | 9,481 |
| Other Costs of Manufacture | \$'000 | 76 | 235 | 44 | 83 | 979 |
| Value of Output | \$'000 | 2,267 | 11,960 | 931 | 4,458 | 18,244 |
| Value of Production | \$'000 | 1,617 | 7,035 | 455 | 1,907 | 7,783 |
| Value of Land and Buildings | \$'000 | 1,386 | 6,215 | 192 | 1,018 | 1,982 |
| Value of Plant and Machinery | \$'000 | 731 | 860 | 133 | 358 | 3,021 |

(a) Railway rolling stock only. Trams ceased to operate in October 1960.

Individual Industries, 1966-67—continued

| Particulars | Unit | VIII-14 | IX-1 | IX-5 | IX-9 | IX-10 |
|------------------------------|--------|-----------------------|---------------|---------------------------------------|----------------|----------------------------------|
| | | Dyeworks and Cleaning | Flour Milling | Bakeries (including Cakes and Pastry) | Confec-tionery | Jam, Fruit and Vegetable Canning |
| Factories .. . | no. | 31 | 5 | 129 | 4 | 17 |
| Rating of Engines and Motors | hp | 656 | 1,915 | 1,190 | 8,192 | 8,344 |
| Average Workers .. . | no. | 298 | 133 | 711 | 1,386 | 1,245 |
| Salaries and Wages Paid .. | \$'000 | 543 | 342 | 1,210 | 3,497 | 3,211 |
| Cost of Materials Used .. | \$'000 | 127 | 2,568 | 3,328 | 10,586 | 6,367 |
| Other Costs of Manufacture | \$'000 | 125 | 236 | 400 | 2,672 | 2,912 |
| Value of Output | \$'000 | 1,435 | 3,731 | 6,879 | 20,441 | 14,338 |
| Value of Production | \$'000 | 1,183 | 927 | 3,151 | 7,183 | 5,058 |
| Value of Land and Buildings | \$'000 | 947 | 660 | 2,300 | 2,982 | 3,871 |
| Value of Plant and Machinery | \$'000 | 383 | 649 | 1,369 | 4,181 | 3,316 |

Individual Industries, 1966-67—continued

| Particulars | Unit | IX-12 | IX-13 | IX-14 | IX-15 | X-1 |
|------------------------------|--------|--------------|------------------|------------------|------------------------------------|----------|
| | | Bacon Curing | Butter Factories | Cheese Factories | Condensed and Dried Milk Factories | Sawmills |
| Factories | no. | 11 | 12 | 7 | 4 | 279 |
| Rating of Engines and Motors | hp | 1,156 | 2,541 | 281 | 1,506 | 47,813 |
| Average Workers | no. | 282 | 252 | 93 | 206 | 2,892 |
| Salaries and Wages Paid .. | \$'000 | 757 | 679 | 200 | 571 | 6,709 |
| Cost of Materials Used .. | \$'000 | 4,523 | 10,311 | 1,827 | 3,287 | 17,527 |
| Other Costs of Manufacture | \$'000 | 365 | 417 | 208 | 1,074 | 1,565 |
| Value of Output | \$'000 | 6,151 | 12,479 | 2,391 | 6,044 | 31,277 |
| Value of Production | \$'000 | 1,263 | 1,751 | 355 | 1,683 | 12,184 |
| Value of Land and Buildings | \$'000 | 957 | 885 | 457 | 384 | 3,464 |
| Value of Plant and Machinery | \$'000 | 366 | 1,742 | 931 | 659 | 3,793 |

Individual Industries, 1966-67—continued

| Particulars | Unit | X-4 | XI-1 | XII-9 | XIII-2 | XVI-1 |
|------------------------------|--------|---------|------------------------------|------------------|-------------------------------|--------------------------------|
| | | Joinery | Cabinet and Furniture Making | Paper Making (a) | Tyre Retreading and Repairing | Electric Light and Power, Govt |
| Factories | no. | 107 | 51 | 4 | 20 | 13 |
| Rating of Engines and Motors | hp | 3,507 | 1,764 | 111,900 | 551 | 1,195,690 |
| Average Workers | no. | 608 | 511 | 3,588 | 151 | 375 |
| Salaries and Wages Paid .. | \$'000 | 1,348 | 976 | 11,686 | 361 | 1,251 |
| Cost of Materials Used .. | \$'000 | 2,065 | 1,805 | 18,935 | 753 | .. |
| Other Costs of Manufacture | \$'000 | 49 | 60 | 6,361 | 84 | 852 |
| Value of Output | \$'000 | 4,218 | 3,555 | 48,665 | 1,555 | 17,182 |
| Value of Production | \$'000 | 2,103 | 1,690 | 23,369 | 718 | 16,330 |
| Value of Land and Buildings | \$'000 | 1,010 | 1,101 | 10,157 | 787 | 144,561 |
| Value of Plant and Machinery | \$'000 | 384 | 288 | 20,178 | 255 | 47,226 |

(a) Includes pulp and paper mills at Boyer, Burnie and Geeveston.

The 25 individual industries appearing in the previous tables are, in effect, a sample only of the data on factories compiled by the Bureau of Census and Statistics in Tasmania; the major reference is the bulletin *Secondary Industries* (annual).

Government Factories

The concept of the factory is not restricted to the private sector of the economy and all factory data previously quoted in this chapter have referred to private and government establishments without distinction. Of the 1,771 factories in the 1966-67 collection, 79 were classified as 'government', the term being applied to all levels whether Commonwealth, State, local or semi-government. To give an indication of the various fields of government factory activity, the next table has been compiled showing the number of establishments in the relevant sub-classes:

Secondary Industry—Manufacturing

Number of Government Factories in Sub-Classes, 1966-67

| Sub-Class of Industry | Title of Sub-Class | Number of Government Factories |
|-----------------------------|--|--------------------------------------|
| I-4 | Lime, Plaster of Paris, Asphalt | 2 |
| I-9 | Other Cement Goods | 3 |
| III-8 | Boiling Down, Tallow Refining | 2 |
| IV-3 | Plant, Equipment and Machinery, including Machine Tools .. | 12 |
| IV-4 | Other Engineering | 4 |
| IV-6 | Electrical Machinery, Cables and Apparatus | 1 |
| IV-7 | Construction and Repair, Trams and Railway Rolling Stock .. | 4 |
| IV-10 | Motor Vehicles—Repairs | 20 |
| IV-33 | Other Metal Works | 1 |
| V-3 | Electroplating (Gold, Silver, Chromium, etc.) | 1 |
| IX-5 | Bakeries (including Cakes and Pastry) | 1 |
| IX-19 | Ice and Refrigerating | 4 |
| IX-33 | Other Food Processing | 1 |
| X-4 | Joinery | 2 |
| X-11 | Other Woodworking | 1 |
| XI-1 | Cabinet and Furniture Making | 2 |
| XII-2 | Printing, Government | 2 |
| XV-4 | Brooms and Brushes | 1 |
| XV-6 | Surgical and Other Scientific Instruments and Appliances | 2 |
| XVI-1 | Electric Light and Power, Government | 13 |
| Total | | 79 |

Some of the authorities maintaining these establishments are the Hydro-Electric Commission, Postmaster-General's Department, the Transport Commission, the Metropolitan Transport Trust, the various marine boards, local government authorities and the Public Works Department.

The following table analyses the principal items of factory statistics, showing the government and non-government components of the totals:

Government and Non-Government Factories, 1966-67

| Particulars | Government Factories | Non-Government Factories | Total |
|--|-------------------------|-----------------------------|---------|
| Factories (no.) | 79 | 1,692 | 1,771 |
| Average Employment (a)— | | | |
| Males (no.) | 2,596 | 25,768 | 28,364 |
| Females (no.) | 65 | 6,450 | 6,515 |
| Salaries and Wages Paid (b)— | | | |
| Males (\$'000) | 7,116 | 73,569 | 80,685 |
| Females (\$'000) | 85 | 9,986 | 10,071 |
| Cost of Materials Used .. (\$'000) | 6,519 | 194,508 | 201,027 |
| Other Costs of Manufacture (c) (\$'000) | 1,364 | 41,002 | 42,366 |
| Value of Production .. (\$'000) | 25,006 | 169,566 | 194,571 |
| Value of Output .. (\$'000) | 32,888 | 405,076 | 437,964 |
| Value at 30 June of Land and Buildings (\$'000) | (d) 149,784 | 84,198 | 233,983 |
| Value at 30 June of Plant and Machinery (\$'000) | 50,499 | 118,660 | 169,159 |

(a) Average whole year (including working proprietors).

(b) Excludes amounts drawn by working proprietors.

(c) Comprises cost of power, fuel, light, water, lubricating oils, containers, tools replaced and repairs to plant.

(d) Includes value of dams, flumes, earth works, etc. ancillary to production of electricity from water.

In the costing of the output of some Government factories, reliance is placed on internal accounting procedures since, in most cases, the product does not find its way to the open market but may appear as a book-entry between

sections of the one department. An obvious example of this occurs in sub-class IV-10 (Motor Vehicles—Repairs), the situation being that various departments and authorities maintain repair workshops for maintenance of their own vehicles.

INDUSTRIAL GROWTH SINCE 1945

Source of Data

In normal circumstances, the Bureau of Census and Statistics does not publish information relating to any single enterprise or establishment, and regards any information it collects as strictly confidential. It does, however, publish statistical aggregates where they do not reveal the operations of any single informant.

A description of industrial growth without mentioning individual organisations is not very illuminating; therefore the *State Directorate of Industrial Development and Trade* has prepared the following section and accepts responsibility for the information given.

Primary-Secondary Relativity

Prior to World War II, there were few large manufacturing establishments in Tasmania. The economy of the State was dominated by primary industries which, in 1938-39, accounted for 60 per cent of the net value of production of all recorded industries.

By today's criteria, pre-war operations of manufacturing establishments were on a small scale but some enterprises have since emerged as national leaders in particular fields. Despite the limitations of geographical isolation and a relatively small domestic market, the State has been going through a period of important industrial development since World War II; the cessation of hostilities released a world-wide demand for goods and services, and a number of new Tasmanian factories were established to take advantage of the situation.

Post-war expansion of factory activity has made the State an important supplier of manufactured goods and processed materials; the economy is now dominated by *secondary industry* which accounted for 63 per cent of the net value of production of all recorded industries in 1966-67. The following table shows the changing primary-secondary relativity since 1938-39, in terms of net value of production:

Net Value of Production: Primary and Secondary Industries Compared

| Year | Net Value of Production | | | Secondary Component as a Proportion of Total |
|--------------|-------------------------|----------------------------------|-------|--|
| | Primary Industries (a) | Secondary Industries (Factories) | Total | |
| | \$m | \$m | \$m | per cent |
| 1938-39.. .. | 16.3 | 10.8 | 27.1 | 40 |
| 1945-46.. .. | 24.2 | 18.4 | 42.6 | 43 |
| 1950-51.. .. | 66.9 | 49.2 | 116.2 | 42 |
| 1955-56.. .. | 87.4 | 91.9 | 179.3 | 51 |
| 1960-61.. .. | 73.6 | 124.9 | 198.5 | 63 |
| 1966-67.. .. | 116.7 | 194.6 | 311.3 | 63 |

(a) Rural industries and the non-rural group (trapping, forestry, fishing and mining and quarrying).

Tasmania as a Site for Industry

The State has certain advantages which have attracted new industrial enterprises. The principal factors are:

Hydro-Electric Power: This is fully described elsewhere in this chapter and it is therefore sufficient to mention the need of power-intensive industries for cheap bulk electricity (e.g. in metal smelting and refining, heavy chemicals, paper and paper pulp making). The State supply is based on hydro-electric generation, and its capacity is being continuously increased. Rates charged to industrial consumers compare very favourably with those in other Australian systems based principally on thermal generation.

Water Resources: In some parts of the world, water resources are inadequate; shortage of water and the high cost of conservation, re-use and 'purification' have become major problems in the expansion of industry. This is definitely not the situation in Tasmania where water is abundant. The terrain favours the economical construction of high-level storages and run-of-the-river pumping schemes are feasible at many sites.

Industrial Land, Harbours and Shipping: Cheap land, and its proximity to deep-sea ports, are factors influencing the expansion of industry in the four main centres of population, Hobart, Launceston, Burnie and Devonport.

The associated ports are served by overseas ships and by interstate ships using modern roll-on roll-off and containerised cargo techniques.

Legislation and Government Assistance: The State *Industrial Development Act* 1954 provided for the establishment of the Industrial Development Branch of the Premier's and Chief Secretary's Department. This organisation is now attached to the Attorney General's Department and has been re-named as the Directorate of Industrial Development and Trade. The Directorate gives advice, information and assistance on a wide range of important industrial matters, and is empowered to provide financial assistance, including loan guarantees, with the object of helping establish new industries or expanding those in operation.

In common with manufacturers in other Australian States, Tasmanian manufacturers may be granted tariff protection by the Commonwealth, the policy being to assist efficient producers compete with those in other countries.

Major New Factories Since 1945

The following lists some of the major factories established in the post-war years:

Petersville Australia Ltd (Ulverstone and Devonport): Both Gordon Edgell Pty Ltd and International Canners Pty Ltd operated in the post-war period to make Tasmania a major producer of processed peas; the two companies now operate as subsidiaries of Petersville Australia Ltd.

Stanley-Titan Pty Ltd (Moonah): Originally established in 1945 by the Titan Manufacturing Co. Pty Ltd to produce wood chisels, the plant went on to make auger bits, cane knives, flat power bits, wood screw pilot bits and plane irons. The present company resulted from a merger with the Stanley works (U.S.A.), the expanded range of products including tape rules, trimming knives, bench planes, block planes, spoke-shaves, hand drills and brace bits.

Silk and Textile Printers Ltd (Derwent Park): Operations commenced in 1947; the processes include the weaving, dyeing, printing and finishing of silk, nylon, terylene, rayon and cotton.

Australian Titan Products Pty Ltd (Burnie): Production of titanium oxide (rutile) pigments began in 1949, plant capacity rising from an initial 1,800 tons to 25,000 tons per annum.

Murex (Asia) Pty Ltd (Derwent Park): The company was incorporated in 1950 to make arc welding materials; activities have steadily expanded to meet the demand for the company's welding electrodes, machines and accessories.

James Nelson (Aust.) Pty Ltd (Launceston): Established in 1951, the mill began with 150 looms and subsequent additions have brought the total to 332. Current production is 8m square yards of synthetic material per annum.

Tootal Ltd (Devonport): First operations in 1952 used piece-goods imported from the U.K. to make textiles. In 1955, capacity was increased to include the weaving, dyeing and finishing of locally produced fabrics.

Comalco Aluminium (Bell Bay) Ltd: The production of aluminium commenced in 1955 at a plant erected with Commonwealth Government funds (with the State Government also participating). The present company was formed in 1960 to buy out the Commonwealth's interest.

Production capacity has grown from 13,000 to 72,000 tons of primary aluminium per annum. The capacity of the alumina (aluminium oxide) plant has recently been doubled and its output of more than 50,000 tons per annum meets about half Comalco's present requirements. A new company, Comalco Aluminium Powder Pty Ltd, has established a plant at Bell Bay to make aluminium powder and paste.

Tasmanian Scottish Carpet Manufacturing Pty Ltd (E. Devonport): The first piece of Tasmanian carpet was woven in 1961 and capacity has now been increased, the product being of the Spool Axminster type.

Kraft Foods Ltd (Scottsdale): In 1961, Kraft Foods Ltd acquired Dewcrisp Products Ltd, manufacturers of dehydrated vegetables and of frozen and canned peas. Capacity was expanded and the making of instant mashed potatoes began in 1964.

Australian Paper Manufacturers Ltd (Port Huon): Production began in 1962 with an initial capacity of 25,000 tons of wood pulp per annum; capacity has now been lifted to 75,000 tons.

Tasmanian Electro Metallurgical Co. Pty Ltd (Bell Bay): The plant began production of ferro-manganese for the Australian steel industry in 1962. Recent expansion has doubled production capacity from 35,000 tons to 70,000 tons per annum.

Alginates (Aust.) Co. (Orford): Operations commenced in 1964, the process extracting sodium alginate from sea kelp. Alginate is a colloid agent, used in film forming, jelling, stabilising, suspending and emulsifying processes. Kelp is obtained from the eastern shoreline in specially designed barges.

Iron Ore Pellet Industry (Port Latta): The most important project carried out recently involved the establishment of an iron ore pelletising industry. The scheme, including the cost of developing the mine at Savage River and building the pipeline to carry the mineral to Port Latta, has cost over \$70m to complete. The production for the first 20 years, which has already been sold, will contribute over \$400m to net export income. This development is more fully described in Chapter 7 at the end of the section headed 'Mining'.

Ceilcote Pty Ltd (Devonport): This company has recently established a factory at East Devonport to make corrosion-resistant materials.

Other New Products

The previous section described some of the factories which have started large-scale manufacturing activities since 1945. The list is by no means exhaustive; other new products which have been added recently to the range of goods manufactured in Tasmania include: bottles, jars and glass containers; domestic electric appliances; fibreboard shipping containers; mattresses; corrugated and solid fibre containers; multi-wall paper bags; tubes for paper, building and textile industries; hot bitumen and bituminous emulsions; roofing material; malt products; anhydrous milk fat; casein; long-keeping milk treated by a new ultra-heat process; and corrosion resistant materials and paint.

Expansion of Established Industries

Not all expansion of manufacturing activity originates in new factories and an account of post-war development would be deficient if it ignored the role played by long-established enterprises. Examples follow:

Australian Newsprint Mills Ltd (Boyer): The first paper machine, with a 27,000 ton capacity per annum, began operating in 1941; a second machine, installed after the war, increased capacity to 94,000 tons of newsprint per annum. The current \$30m expansion programme requires the installation of a third machine to lift the total capacity to 165,000 tons; the plant with this capacity will be able to supply about 40 per cent of Australia's needs. The Boyer plant is Australia's sole newsprint producer.

Associated Pulp and Paper Mills Ltd (Burnie): Paper manufacturing capacity has increased from an initial 14,000 tons per annum in 1938 to 100,000 tons at present; the company has become Australia's largest manufacturer of fine papers, and has subsidiaries making specialty papers, hard board and particle board and producing sawn timber. At Wesley Vale, thirty miles east of the Burnie works, the company is constructing a new integrated pulp and paper complex, with paper production expected to begin before 1970.

Cadbury Fry Pascall Australia Ltd (Claremont): Production of confectionery commenced in 1922. Since then the plant has grown continually to become the largest cocoa and chocolate factory in Australia, accounting for 30 per cent of all block chocolate production in Australia. Recent expansion projects include the construction of a \$0.8m manufacturing block at Claremont and the completion of a \$0.3m plant at Edith Creek to process 3m gallons of milk each season on the north-west coast.

Electrolytic Zinc Company of Asia Ltd (Risdon): Operations include the refining of zinc, the making of sulphuric acid and the recovery of lead and silver as residues. Other products include metallic cadmium, zinc base die-cast alloy, special galvanising alloys, zinc dust, zinc sulphate and cobalt di-oxide.

Superphosphate production increased from 28,000 tons in 1944-45 to 164,000 tons in 1966-67. In 1956, a sulphate of ammonia plant with a 62,000 ton annual capacity was brought into production and, in 1964, a small plant for making aluminium sulphate began operating.

Production of the company's principal metal—refined zinc—has almost doubled since 1944-45, 1966-67 output standing at 144,000 tons. The zinc plant supplies a large proportion of Australia's total requirements.

Goliath Cement Holdings Ltd (Railton): In 1944-45, production of Portland cement approached 44,000 tons. Modernisation has been undertaken in several stages, the last lifting annual capacity to 500,000 tons. A new dry process cement plant with a 300,000 ton annual capacity has been installed at a cost of

\$5.0m. The economical despatch of the product has been facilitated by the installation of bulk handling facilities both at the Railton works and at the port of Devonport.

Kelsall and Kemp (Tas.) Ltd (Launceston): From a small beginning in 1921, the company has become one of Australia's leading producers of high fashion fabrics. Furniture fabrics have recently been added to its range of products. An expansion programme will lift output 25 per cent within 12 months.

Patons and Baldwins (Aust.) Ltd (Launceston): Worsted and woollen hand knitting and machine knitting yarns are spun at this factory which first began yarn making in 1923. The post-war period saw steady expansion, plant development requiring over \$6.5m in the last ten years. The company has recently established a \$0.75m plant at George Town to produce high quality acrylic yarns for machine knitting.

Repco Bearing Company Pty Ltd (Launceston): Established in 1933 to manufacture engine bearings for the Australian domestic automotive spare parts trade, the company has now expanded and secured export markets in overseas countries. Special equipment has been installed recently to produce self-lubricating bushings and shaped parts from metal powders. Repco bearings have been used in the world's major motor races since they are incorporated in Jack Brabham's special motors.

A. Wander (Aust.) Pty Ltd (Quoiba): Established in Tasmania in 1941, the Quoiba unit has become the second largest 'Ovaltine' factory in the world and is still growing. About 75 per cent of the output goes to Singapore and Thailand, most of the balance being consumed in Australia. Recent additions to the range of products include malt extracts, 'Ovaltine' infant rusk, and pharmaceutical products.

Current or Planned Projects

The expansion of manufacturing activity described in the previous sections would not be complete without some mention of new projects. The next section lists some of the major developments that are either in the planning or construction stage.

W. Angliss and Co. (Aust.) Pty Ltd: A long range project to expand activities in the fish processing field is expected to involve the company in expenditure of over \$3m.

Longford Abattoir Co. (Longford): In addition to a \$0.2m by-products plant which has been recently established, the Company is spending \$0.5m on expansion of their works at Longford.

Blue Ribbon Holdings Pty Ltd (Burnie): The company plans to build a ham, bacon and smallgoods factory (cost \$0.2m) at Camdale near Burnie.

Wood Chip Industry: Tasmanian Pulp and Forest Holdings Pty Ltd plan to build a wood chip plant near Triabunna. Initial capital investment by the company will be \$3.4m and 380 persons will be employed. A port will be built on the East Coast.

Sulphuric Acid Plant: The E.Z. Co. of Asia is investigating plans to establish a sulphuric acid plant at Burnie. A plant with 420,000 tons annual capacity would cost more than \$14m to establish.

Freighter Industries (Tas.) Pty Ltd: A new plant, expected to cost \$0.1m, will be established at Young Town to manufacture transport equipment.

Hobart Brick Co. Ltd: The company is installing the first tunnel drier for clay brick production in Tasmania.

GOVERNMENT HYDRO-ELECTRIC POWER

The effects of drought in the catchment areas in 1967 were still apparent in 1968. Although the system has been designed to cope with the worst conditions on record, new records for dryness were being established.

The principal emergency measures taken by the Commission included: the rationing of power supplies to bulk industrial consumers; the purchase of an electric propulsion ship, capacity 10,000 kW, renamed the George H. Evans and now feeding energy into the system from its berth at Bell Bay; the purchase of gas turbine generators with a capacity in total of 40,000 kW to come into operation in the first half of 1968.

Given the fact that drought in the catchment areas is an exceptional phenomenon, the generality of the text that follows is not materially invalidated. Details of the emergency plant just mentioned have not been included in any of the tables in this section which refer to permanent installations only. Industrial power cuts were reduced from 35 to 25 per cent from 1 July 1968, and all limitations were removed on 1 October 1968.

Introduction

Tasmania is unique among Australian States in that its electric power system has been based exclusively on hydro-electric installations, but a thermal station is planned to operate in 1970. Other Australian States rely, in the main, on thermal plants and hydro-electric power, if available, is used only to supplement the basic supply. The Snowy River Hydro-Electric Scheme which feeds power to the Victorian and N.S.W. grids is not designed to cope with the base load demand in these two States, and its essential function is to provide the extra power necessary to meet peak loads, and also to supply irrigation water to the inland. The Tasmanian system, despite its lower installed capacity, produces more power than the Snowy Scheme.

Thermal power stations of any type are best suited to steady operation on base load. Steam cannot be raised at a moment's notice and having thermal capacity standing by to meet peak demands becomes very expensive. By way of contrast, a water turbine can pick up load very quickly as soon as the valve is opened.

In the Tasmanian situation, water power is required to meet the base load at all times and yet have the extra capacity to cope with peak loads. The Poatina machines, for example, with a head of 2,729 feet and a turbine rating of 346,000 horsepower, have the ability to take up a very big load, up to a maximum of 250,000 kilowatts, in a matter of minutes. The decision to introduce a thermal station into the system has been taken before even half the State's water resources have been exploited. The reason for the decision is discussed in a later section headed 'Construction Policy'; economy in the use of capital is the main consideration.

Concentration on water as a source of power in Tasmania has resulted in a particular pattern of development. Since water is virtually the sole source of electric power, it must be conserved even if rainfall is bountiful. Accordingly certain characteristics can be seen in the massive engineering works undertaken by the Hydro-Electric Commission:

(i) Emphasis on creation of storages; a scheme depending on the 'run of the river' is found at Trevallyn but the decision not to create any substantial storage was forced by consideration for valuable agricultural land up-stream.

(ii) Emphasis on use of the same water over and over again; for example water from Lake St Clair may pass through eight power stations before

reaching the tidal waters of the Derwent at New Norfolk. Water from Lake Echo, thirty miles to the east of Lake St Clair, also may pass through eight stations, the lower six being those fed by water from Lake St Clair.

Certain indirect advantages have also accrued to the State through its concentration on hydro-electric power development. The first major undertaking at Waddamana on the Great Lake, opened in 1916, had relied heavily on horses and a wooden railway to get plant to the construction site. Subsequent development, usually in remote areas, led to the making of excellent roads, initially built by the Hydro-Electric Commission for access and construction purposes. Probably the most spectacular of such developments is the Gordon River road, driven west from Maydena to the junction of the Gordon and Serpentine rivers; this is the first major road to penetrate the hitherto uninhabited south-west.

The extensive storages built by the Hydro-Electric Commission on the Derwent drainage system have given engineers the ability to exercise extensive control over the flow, to the point where the scheme can be viewed as equivalent to flood prevention. Although no extensive irrigation systems have yet been based on the controlled flows now available, the fact remains that the storages are there and the irrigation potential exists.

The possibilities of the Derwent catchment area have been fully exploited and the centres of activity have now shifted to the head waters of the north-west rivers, Mersey, Forth and Wilmot, to the Gordon-Serpentine junction in the south-west, and to the Bell Bay thermal station site. The last station in the north-west scheme will not be finished until approximately 1971 but, in the meanwhile, survey is pushing ahead in the river systems of the south-west and west (the Franklin, King, etc.). The future development of hydro-electric power in these areas is full of exciting possibilities for the State. Quite apart from the massive loads of power available from these heavy-rainfall river systems, there is the certainty that an adequate road system will penetrate areas which have traditionally been described as 'uninhabited and virtually unexplored.' The road from Maydena to the Gordon-Serpentine junction, opened for public use in June 1967, is merely the first step in such development.

In the generation of power from water, Tasmania has been the pioneer State of the Commonwealth, as the following historical section shows.

Beginnings

The pioneering of public hydro-electric power in Tasmania was undertaken by the City of Launceston in 1895 when a 579 horse-power generator was installed at Duck Reach, situated on the South Esk two miles from its junction with the River Tamar. The station, with enlarged capacity, ran for sixty years but its function was purely municipal supply.

The scheme which eventually led to the establishment of a State-owned, State-wide supply of electricity was based upon exploitation of the waters of the Central Plateau; the original impetus was given by Complex Ores Ltd which, under an act of 1909, was given the right to generate power from the Great Lake. Complex Ores Ltd assigned its property and undertakings to Hydro-Electric Power and Metallurgical Company Ltd which began construction; in 1914 physical and financial difficulties eventually persuaded this company to sell out to a newly formed State authority, the Hydro-Electric Department, the purchase price being \$624,000.

Construction proceeded despite war-time difficulties, the work requiring a low dam across the Shannon outlet of the Great Lake to increase the lake storage to 500 square mile feet, a diversion canal from the Shannon, and finally

pipelines to contain a head of 1,123 feet above Waddamana powerhouse on the left bank of the Ouse. In May 1916, two machines, each of 4,900 horsepower, were brought into operation. Some indication of construction difficulties may be gained from the fact that chaff was a significant part of the capital cost—in the absence of adjacent roads or railways, a horse-drawn wooden tramway gave the only access.

In January 1930, the *Hydro-Electric Commission Act 1929* came into force; the Hydro-Electric Commission was created to manage the existing works and to control the waters of the State, and in the Commission was vested the sole right of generating, distributing and selling electricity throughout Tasmania. Considering that present capacity of the generating system approaches 1.5 million horsepower, it is interesting to record the system taken over by the Hydro-Electric Commission in 1930. It consisted of a single power station, Waddamana 'A', with an installed turbine capacity of 65,800 horsepower; load on the system was 65,070 horsepower of which 37,000 horsepower was being taken by the Electrolytic Zinc Co.

Subsequent Development

To trace the expansion of turbine capacity from 65,800 horsepower in 1930 to the present day would be confusing if undertaken purely chronologically; the better course is to show the development of each major section of the generating network. Full details of the present schemes appear in the 1967 *Year Book* and the following section summarises the more important features. The item 'Source' has been written to indicate the main water systems but only a large-scale map will show full details of the rivers, streams and lakes involved.

Waddamana-Shannon

Source: Great Lake.

Details: Miena dam built across Shannon outlet of Great Lake; water passed through Shannon station to become input for Waddamana stations.

Operation: First generated power in 1916 (about 7,300 kW) and built to full capacity (107,500 kW) by 1949. In 1964, Shannon and Waddamana 'A' stations were closed down, the 'B' station being retained as spare plant and for emergency peak operation (the *Poatina scheme* with a greater head, 2,729 feet, makes more efficient use of the Great Lake water).

Details of the Waddamana-Shannon scheme in its final form were as follows:

Waddamana-Shannon

| Power Station | Head ft | Turbines | | Station Capacity | |
|-------------------|------------|----------|----------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Waddamana 'A' (a) | 1,123 | 2 7 | 4,900 8,000 | 65,800 | 49,000 |
| Shannon (a) | 258 | 2 | 7,250 | 14,500 | 10,500 |
| Waddamana 'B' (b) | 1,127 | 4 | 16,700 | 66,800 | 48,000 |
| Total | .. | .. | .. | 147,100 | 107,500 |

(a) Closed down in 1964 when Poatina station commenced operating.

(b) Retained as reserve plant.

Tarraleah-Butlers Gorge

Source: Lake St Clair and Upper Derwent.

Details: Artificial Lake King William formed by Clark Dam at Butlers Gorge; low head station at foot of dam discharges into canals leading to Tarraleah. The discharge from Tarraleah station enters the bed of the Nive. The useful storage in Lake King William now is 0.43m acre feet, Clark Dam having been built 20 feet higher in the period 1964-1966.

Operation: Three turbines running at Tarraleah by 1938 and full capacity available by 1951.

Particulars of the scheme are:

Tarraleah-Butlers Gorge

| Power Station | Head ft | Turbines | | Station Capacity | |
|---------------------|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Butlers Gorge | 184 | 1 | 17,100 | 17,100 | 12,200 |
| Tarraleah | 981 | 6 | 21,000 | 126,000 | 90,000 |
| Total | .. | .. | .. | 143,100 | 102,200 |

Tungatinah-Lake Echo

Source: The Nive and Ouse Rivers and Lake Echo.

Details: Bradys Lake is fed with water from the Nive and the Ouse, the Ouse diversion passing first through Lake Echo station. From Bradys Lake, the water is led to Tungatinah station and discharged into the bed of the Nive. (The Tarraleah and Tungatinah stations lie almost opposite each other.)

Operation: First power produced in 1955.

Particulars of the scheme are as follows:

Tungatinah-Lake Echo

| Power Station | Head ft | Turbines | | Station Capacity | |
|------------------|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Lake Echo | 568 | 1 | 45,000 | 45,000 | 32,400 |
| Tungatinah | 1,005 | 5 | 35,000 | 175,000 | 125,000 |
| Total | .. | .. | .. | 220,000 | 157,400 |

Liapootah-Wayatinah

Source: Discharge from Tarraleah and Tungatinah in bed of Nive; Derwent River.

Details: Liapootah station is fed with water from a dam across the Nive. The Liapootah discharge and the waters of the Derwent are impounded by a dam below the confluence of the Derwent and Nive and are then led to Wayatinah station.

Operation: The first power was produced in 1957 and full capacity reached in 1960.

Particulars of the scheme are as follows:

Liapootah-Wayatinah

| Power Stations | Head ft | Turbines | | Station Capacity | |
|-----------------|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Liapootah | 361 | 3 | 39,000 | 117,000 | 83,700 |
| Wayatinah | 203 | 3 | 20,500 | 61,500 | 38,250 |
| Total | .. | .. | .. | 178,500 | 121,950 |

Catagunya

Source: Discharge from Wayatinah; the Derwent augmented by its tributaries, the Florentine and Black Bobs Rivulet.

Details: Water drawn from storage created by pre-stressed concrete Catagunya dam built across the Derwent.

Operation: The scheme began yielding power in 1962.

Particulars of the scheme are as follows:

Catagunya

| Power Station | Head ft | Turbines | | Station Capacity | |
|-----------------|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Catagunya | 144 | 2 | 33,500 | 67,000 | 48,000 |

Lower Derwent

Source: Catagunya discharge and various Derwent tributaries, e.g. Repulse, Broad, Dee, Ouse, Clyde, etc.

Details: Water passes through three stations formed by dams across the Derwent, namely Repulse, Cluny and Meadowbank in that order.

Operation: Meadowbank completed in December 1966 and all stations operating by 1968.

Particulars of the scheme are as follows:

Lower Derwent

| Power Station | Head ft | Turbines | | Station Capacity | |
|---------------|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Repulse | 88 | 1 | 39,000 | 39,000 | 28,000 |
| Cluny | 56 | 1 | 29,200 | 29,200 | 17,000 |
| Meadowbank .. | 96 | 1 | 56,000 | 56,000 | 40,000 |
| Total | .. | .. | .. | 124,200 | 85,000 |

Trevallyn

Source: South Esk (supplemented by discharge into its tributary from Poatina station).

Details: A 'run of the river' scheme with only daily pondage at the tunnel inlet (to store more water would flood agricultural land). Trevallyn station, near Launceston, discharges into the Tamar River.

Operation: Completed in 1955.

Particulars of the scheme are as follows:

Trevallyn

| Power Station | Head ft | Turbines | | Station Capacity | |
|-----------------|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Trevallyn | 415 | 4 | 28,000 | 112,000 | 80,000 |

Great Lake (Poatina)

Source: Great Lake (with supplementary pumping from Arthurs Lakes).

Details: The Great Lake, naturally draining south, is diverted at its north-eastern end by a tunnel and led to the underground Poatina station. The discharge feeds through a tributary into the South Esk and thus becomes input for the Trevallyn station. A new Miena dam across the Shannon has been built to give a useful storage in the Great Lake of 1.71m acre feet (i.e. about half the storage of the Eucumbene in N.S.W.). The storage is supplemented by pumping water from Arthurs Lakes and the small Tods Corner station (1,600 kW) operates on the discharge of this pumped water into the Great Lake.

Operation: First started yielding power in 1964 and five turbines operating by 1966; provision exists to instal a sixth turbine later.

Particulars of the scheme are as follows:

Poatina

| Power Station | Head ft | Turbines | | Station Capacity | |
|------------------|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| Poatina | 2,729 | (a) 5 | 69,200 | (a) 346,000 | (a) 250,000 |

(a) Five turbines installed; provision exists for a sixth.

With the completion of the Poatina scheme, the possibility of further developing the Derwent catchment area was exhausted (apart from the Lower Derwent Scheme which became fully operational in 1968). The centre of activity now is located in the area of three rivers flowing towards Bass Strait, and also at the junction of the Gordon and Serpentine rivers in the south-west.

Mersey-Forth (Under Construction)

Source: The Forth, Mersey and Wilmot Rivers.

Details: Artificial Lake Rowallan on the upper Mersey discharges through Rowallan power station; the Mersey is again dammed below its junction with the Fisher and passed by tunnel to the Forth above Lemonthyme station; the Forth is augmented again below Lemonthyme by discharge from Wilmot station (fed from the dammed Wilmot River by tunnel). The Forth, below Wilmot station, now carries the diverted waters of the Mersey and the Wilmot

and goes on to drive three stations at Cethana, Devils Gate and Palooma. The last station in the scheme is the Fisher, fed from Lake MacKenzie and discharging into the Fisher River for diversion to the Forth above Lemonthyme.

Operation: For convenience, the previous description is written in the present tense. The first power station, Rowallan, came into operation in 1968 whilst Lemonthyme and Devils Gate stations are expected to begin operating in 1969.

Particulars of the scheme are:

Mersey-Forth (Under Construction)

| Power Station and Construction Sequence | Head ft | Turbines | | Station Capacity | |
|---|------------|----------|--------------|------------------|------------------|
| | | no. | Rating hp | Turbines hp | Generators kW |
| (1) Rowallan (a) | 163 | 1 | 14,750 | 14,750 | 10,450 |
| (2) Lemonthyme | 521 | 1 | 72,400 | 72,400 | 51,000 |
| (3) Devils Gate | 226 | 1 | 84,450 | 84,450 | 60,000 |
| (4) Wilmot | 825 | 1 | 42,900 | 42,900 | 30,600 |
| (5) Cethana | 324 | 1 | 120,650 | 120,650 | 85,000 |
| (6) Palooma | 103 | 1 | 40,200 | 40,200 | 28,000 |
| (7) Fisher | 2,115 | 1 | 61,650 | 61,650 | 43,200 |
| Total | .. | .. | .. | 437,000 | 308,250 |

(a) Began operating 1968.

The Gordon River—Stage One (Under Construction)

The Gordon is Tasmania's largest river but its development as a power source has only recently become a practical proposition. The river lies in the State's wildest, wettest and most remote terrain and the main problem has been access; however, a Commonwealth Government grant of \$5m helped build a road from Maydena to the junction of the Gordon and Serpentine rivers; the road was made available for public use in June 1967.

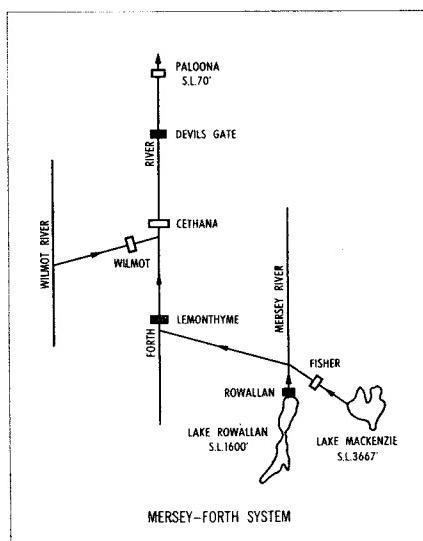
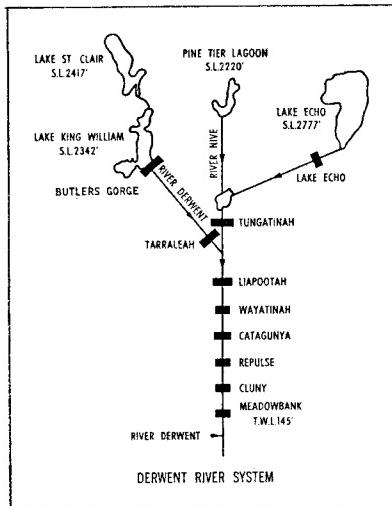
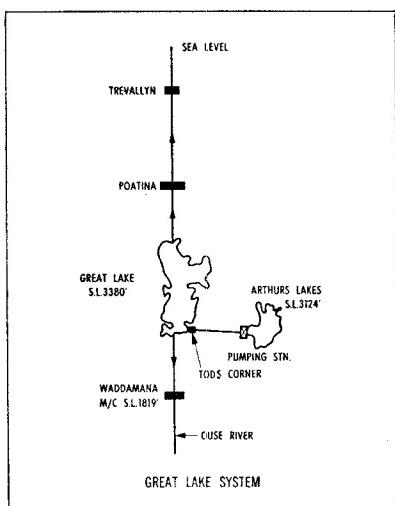
The first projected development of power on the Gordon is termed Stage One because later schemes in the west and south-west can utilise the Gordon at other sites, as well as exploiting the waters of the Franklin, Olga and King.

Stage One (the *Middle Gordon* scheme) aims at producing 240,000 kW generator capacity from a 600 foot head of water. The storage will be created by dams across the Serpentine and the Gordon very close to their junction; a third dam is also required at Scotts Peak across the Huon River headwaters. Construction of these three dams will result in the creation of Australia's largest artificial storage with a useful capacity of 10m acre feet. (Comparisons are: Eucumbene, N.S.W., 3.54m acre feet; Great Lake, Tas., 1.71m; Lake King William, Tas., 0.43m.)

The storage will develop as two artificial lakes connected by a short canal near McPartlans Pass. The southern lake (useful capacity, 0.3m acre feet) will be created by dams across the Serpentine and Huon, and the northern lake (useful capacity, 9.6m acre feet) by the dam across the Gordon. The power station will receive its water from the northern lake (approximate height 1,010 feet above sea level) and its discharge will flow into the Gordon.

The remaining altitude for further exploitation of the Gordon, 400 feet, may seem low but the river is fed below the projected lakes by big tributaries; accordingly, a later *Lower Gordon* scheme based on high volume-low head is thought possible and likely to produce a further 240,000 kW generator capacity.

Such is the immensity of the planned storage that four years will be required for the water to build up to the designed level; 10m acre feet of water discharged on Tasmania's area, 16.9m acres, would flood it to a depth of seven inches. The programme envisages the completion of the dams by 1971 or 1972 and the first output of power in 1975. Estimated cost of Stage One is \$95m. The creation of the southern lake will cause Lake Pedder to disappear under 50 feet of water (*see coloured print at front of book*).



Diagrams illustrating main generating systems. Black rectangles represent power stations; open rectangles proposed stations. (*M/C* is machine centre; *TWL* is tail water level; *SL* is height above sea level.) Lemonty whole and Devils Gate stations scheduled for completion in 1969.

Bell Bay Thermal Station (Under Construction)

Tasmania has relied exclusively on hydro-electric power so long that a scheme based on thermal generation seems surprising. A thermal plant using oil is being built at Bell Bay and will have generators with 120,000 kW capacity. The capital cost is estimated at \$20.75m but its output will cost 0.55 cents per unit; by way of contrast, a Gordon Stage One unit is estimated to cost 0.38 cents and a Mersey-Forth unit 0.46 cents (the unit is one kilowatt-hour). The reasons for introducing a thermal plant into a completely hydro-powered network are discussed in a later section, 'Construction Policy'. First output is planned for 1970.

System Capacity

The previous section has shown details of all schemes, either operating now, under construction or projected. The next table brings this information together and shows how the capacity of the system will grow from 904,600 kW (1968) to 1,562,400 kW (1975), assuming that all construction goes according to plan.

Capacity of Present and Planned Power Stations

| Power Stations | Water System | Date of Entry Into Service (a) | Station Generator Capacity (kW) | Cumulative Aggregate Capacity of All Stations (kW) |
|-------------------------------------|---------------------------|--------------------------------|---------------------------------|--|
| INSTALLED BEFORE 1969 | | | | |
| Waddamana 'B' .. | Great Lake | 1944 | 48,000 | .. |
| Tarraleah .. | Derwent | 1938 | 90,000 | .. |
| Butlers Gorge .. | Derwent | 1951 | 12,200 | .. |
| Tungatinah .. | Nive/Ouse/ Little Pine | 1953 | 125,000 | .. |
| Trevallyn .. | South Esk (b) | 1955 | 80,000 | .. |
| Lake Echo .. | Little Pine/ Ouse | 1956 | 32,400 | .. |
| Wayatinah .. | Derwent | 1957 | 38,250 | .. |
| Liapootah .. | Derwent | 1960 | 83,700 | .. |
| Catagunya .. | Derwent | 1962 | 48,000 | .. |
| Poatina .. | Great Lake | 1964 | 250,000 | .. |
| Tods Corner .. | Arthur's Lakes | 1966 | 1,600 | .. |
| Meadowbank .. | Derwent | 1966 | 40,000 | .. |
| Cluny .. | Derwent | 1967 | 17,000 | .. |
| Repulse .. | Derwent | 1968 | 28,000 | .. |
| Rowallan .. | Mersey-Forth | 1968 | 10,450 | 904,600 |
| CONSTRUCTION PLANNED OR IN PROGRESS | | | | |
| Lemonthyme .. | Mersey-Forth | 1969 | 51,000 | .. |
| Devils Gate .. | Mersey-Forth | 1969 | 60,000 | 1,015,600 |
| Wilmot .. | Mersey-Forth | 1970 | 30,600 | .. |
| Bell Bay Thermal .. | .. | 1970 | 120,000 | 1,166,200 |
| Cethana .. | Mersey-Forth | 1971 | 85,000 | .. |
| Paloola .. | Mersey-Forth | 1971 | 28,000 | .. |
| Fisher .. | Mersey-Forth | 1971 | 43,200 | 1,322,400 |
| Gordon River Stage (1) | Gordon:Serpentine:Huon | 1975 | 240,000 | 1,562,400 |

(a) Actual till 1968; planned dates for subsequent years.

(b) Discharge from Poatina enters South Esk via tributaries.

In 1968, emergency generating equipment developing 50,000 kW was acquired but details of this capacity have been excluded from the previous table; its use is restricted to periods when storages are low due to drought.

Control

The Hydro-Electric Commission is an autonomous statutory authority, responsible almost entirely for the conduct of its own affairs. The 'Minister Administering the Hydro-Electric Commission Act' is answerable to Parliament for the activities of the Commission, but the Commission is not directed by or responsible to the Minister as is a government department. In other words, the Commission is envisaged as a trading or business organisation, and the purpose of the legislation that created it was to remove it from day to day political control. The power exerted by Parliament is mainly financial, not over the ordinary revenue and expenditure of the authority, but over the supply of loan moneys for new capital works. Thus at 30 June 1967, the loan debt of the authority stood at \$281 million of which \$255 million came from State loan funds; the balance was raised by the authority itself on the semi-government loan market, power to raise money in this field having been conferred in 1952. New power development works require the sanction of Parliament before any work may be commenced, and loan funds are allocated through the State Treasury from the sums made available to the State by a Federal body, the Australian Loan Council, which borrows money on behalf of all States.

Two other restrictions on the Commission can be listed: (i) It cannot change its tariff charges for the supply of electricity to consumers except with the approval of the Governor-in-Council. Theoretically this could lead to tariff charges being deliberately kept lower than at an economic level; in practice, this has not happened since the Commission is expected to operate as a bona-fide business organisation and to recoup its operating expenses from adequate charges. (ii) In certain of its dealings, such as in real estate, the Commission must obtain the approval of the Minister.

The status of the Commission was described thus by the High Court of Australia in a judgment delivered in 1950: 'In the eye of the law the corporation is its own master and is answerable as fully as any other person or corporation. It is not the Crown and has none of the immunities or privileges of the Crown. Its servants are not civil servants and its property is not Crown property.'

Organisation

Under the Commission, with its full time Commissioner and three part-time Commissioners, there are five branches:

(i) *Civil Engineering Branch*. Responsible for: survey of water resources; design and construction of all civil works involved in power development and allied projects.

(ii) *Electrical Engineering Branch*. Responsible for: studies of load growth and system development; design and construction of all electrical engineering works in conjunction with the Civil Engineering Branch.

(iii) *Power Branch*. Responsible for: operation and maintenance of completed power developments; generation and transmission of power in bulk.

(iv) *Retail Supply Branch*. Responsible for: distribution of electricity to consumers; operation and maintenance of the distribution system; inspection of installations and equipment.

(v) *Secretarial.* Responsible for: general administrative business of Commission with sub-sections dealing with accounts, law, personnel, transport, stores and purchasing, medical services, central records and other services.

Construction Policy

Apart from its function of meeting all present demands for electrical power, the Commission has the heavy responsibility of estimating probable future demand and of having the necessary capacity to satisfy it as it occurs. In making estimates of future demand, there are four basic factors to be considered:

- (i) Growth of population affecting number of home consumers, light industries, shops, etc.
- (ii) Technological change favouring greater use of electrical power in homes, factories, shops and offices.
- (iii) Increased demands for power by heavy industrial users now operating e.g. in the metallurgical, chemical and paper pulp industries.
- (iv) Possibility of other 'power-intensive' industries setting up plants in the State.

The difficulty of good planning is accentuated by the fact that hydro-electric development consumes capital far more avidly than the creation of equivalent capacity by thermal generation (put another way, thermal plants are cheaper to build but much more expensive to operate). Prudent economic policy dictates that an authority should try to keep just ahead of demand, and not have an unremunerative investment in a large block of idle generating capacity; the margin in hand at any given time is therefore comparatively small. Construction is a continuous process regulated to ensure that future demand will be met and restrictions in supply avoided. The pattern of the Commission's plan for the immediate future can be seen in terms of the following schedule:

- By 1970: completion of Bell Bay thermal unit and four stations of the Mersey-Forth scheme in operation.
- By 1971: all seven Mersey-Forth stations operating and dam work on Gordon Stage One completed.
- By 1975: Gordon station in operation.

The decision to introduce an oil-fed thermal unit at Bell Bay into the system was taken because estimated future power demand required a major addition by 1970, even allowing for four Mersey-Forth stations being in operation by that year. In the period 1969-1970, the Commission will be constructing two major water-power schemes (Mersey-Forth and Gordon Stage One); to meet expected demand in 1970, it could hardly hope to simultaneously undertake a third water-power scheme for, apart from other considerations, the capital cost would be immense.

The alternative is to build a thermal plant and thereby economise on capital outlay. Admittedly the cost per thermally generated kilowatt hour is higher but, considering 120,000 kW thermal capacity against 1,166,200 kW total system capacity (1970 estimate), average cost per power unit would not be greatly increased. When the Gordon Stage One becomes operative in 1975, the thermal capacity will constitute only eight per cent of total system capacity (1,562,400 kW) and the higher thermal generating costs will have even less effect.

The estimated cost of developing two hydro schemes and one thermal scheme all at the one time required more finance than could be provided by normal methods; accordingly an approach was made to the Commonwealth Government which agreed to make an advance of \$47m over and above normal loan fund allocations. The advance is short-term and must be repaid in eight years from the time when the completed works begin to earn income.

Generation and Transmission

The system of generation and transmission employed in Tasmania is completely integrated and load control engineers can call upon the capacity of any generator throughout the State. Operation can be viewed in both short term and long term aspects. In the short term, the major consideration is meeting the daily fluctuation in demand (which follows a fairly standard pattern with morning and evening peaks); there is the added responsibility of having stand-by turbines spinning as a precaution against break-down of generators under load.

In the long term, the main consideration is the operation of storages in such a way as to conserve water, to ensure that all water released is exploited to the maximum, and to obtain maximum benefits from rainfall. The more dispersed the Commission's storages become, the greater the opportunity for taking advantage of local rainfall by maximum operation of power stations below the affected catchment since the process of drawing on the storage 'makes room' for drainage from the downpour.

The original high voltage transmission in the State was at 88,000 volts. When Tarraleah came into operation, new lines operated at 110,000 volts; main transmission lines built since 1957 operate at 220,000 volts.

Retail Distribution

In the early days of the Commission's operation, consumers of electrical power received it from three sources: from municipalities with their own generating capacity; from municipalities retailing power bought from the Commission; and from the Commission direct. Gradually uniformity was achieved, municipalities stopped generating and retailing and the one authority became the sole supplier, both of bulk power to industry and retail power to homes, shops, businesses, etc. One effect has been uniformity in tariff charges for retail power so that the farmer on the most remote holding is charged no more than dwellers in the principal cities.

Earlier it was stated that the Commission is supposed to operate as a business organisation and 'pay its way'. This posed something of a problem in the carrying of power to remote locations with few potential consumers—in such cases, the capital cost of the extension would be a heavy burden on the consumer. Special legislation existed to subsidise the Commission when it made 'uneconomic extensions', the State Treasury granting assistance up to 75 per cent of the capital cost, if not exceeding \$600 per consumer. This State subsidy was withdrawn in 1964-65. The operation of this provision undoubtedly contributed to Tasmania's achieving an Australian record figure for distribution of electrical power—it is estimated that over 98 per cent of homes and farms are now connected.

To complete the picture, it is necessary to deal with electricity supply in the main islands off the Tasmanian coast. Bruny Island is connected to the major grid by under-sea cable whilst King Island is supplied from an internal

combustion plant operated by the Commission. Flinders Island, at Whitemark, is supplied from a generator operated at the district hospital but there are plans to replace the plant destroyed by fire in 1966.

Growth of Hydro-Electric System

The following table shows the growth of the system in recent years:

Hydro-Electric Commission—Operating Statistics

| Year | Total Rating of Turbines | Total Rating of Alternators | Peak Loading | Average Loading | Average (a) Load Factor |
|---------|-----------------------------|--------------------------------|-----------------|--------------------|----------------------------|
| 1957 .. | hp 683,700 | kW 485,350 | kW 372,200 | kW 254,100 | per cent 68.3 |
| 1958 .. | 683,700 | 485,350 | 394,900 | 266,660 | 67.5 |
| 1959 .. | 683,700 | 485,350 | 403,600 | 274,150 | 67.9 |
| 1960 .. | 800,700 | 569,050 | 415,400 | 285,250 | 68.7 |
| 1961 .. | 800,700 | 569,050 | 438,400 | 297,080 | 67.8 |
| 1962 .. | 867,700 | 617,050 | 461,600 | 323,790 | 70.1 |
| 1963 .. | 867,700 | 617,050 | 550,300 | 378,000 | 68.7 |
| 1964 .. | 1,130,000 | 806,550 | 582,000 | 405,620 | 69.7 |
| 1965 .. | 1,133,400 | 807,550 | 593,700 | 427,580 | 72.0 |
| 1966 .. | 1,194,870 | 849,150 | 624,100 | 451,047 | 72.3 |
| 1967 .. | 1,224,070 | (b) 866,150 | 636,900 | 445,490 | 69.9 |

(a) Average loading as a percentage of peak loading.

(b) Increased to 904,600 kW in 1968 when Rowallan and Repulse stations came into operation.

Average Load Factor

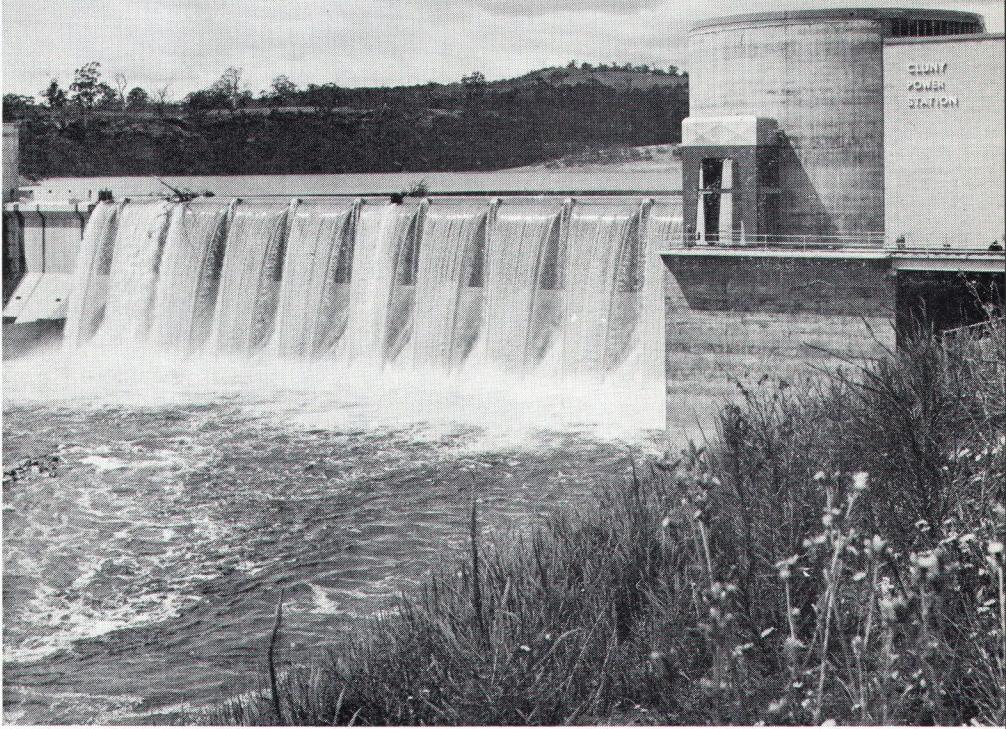
The alternator rating (i.e. generator capacity) is necessarily much higher than the peak loading since some generating plant must be held in reserve against the possibility of break-down.

A power system must be designed to meet both the peak loading (the demand component) and the average loading (the energy component). Peak loading tends to represent high demand for relatively short periods, i.e. it has relatively little energy associated with it. The obvious design and operational problem is to create sufficient capacity to meet peak loading and, at the same time, to encourage the use of power so that the highest possible average loading is obtained. 'Off-peak' heating systems are an obvious example of one way in which the average load factor can be maximised; the steady use of power in a continuous industrial production process also has the effect of raising the average loading and lifting the load factor.

All things being equal, the cheapest system, from the consumers' point of view, will be the one with the highest average load factor. By world standards, the average load factors in the previous table indicate a high standard of design and operational efficiency.

Price of Power to Consumers

Hydro-electric power requires heavy initial capital expenditure; actual operating expenses are comparatively low, the major burden on revenue being interest and other associated debt and depreciation charges. Thermal stations do not require such heavy capital outlay but their operating expenses are considerably higher. In considering the data in the next table, it is to be recalled that Tasmania currently draws its power exclusively from water-driven



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(H.E.C.)

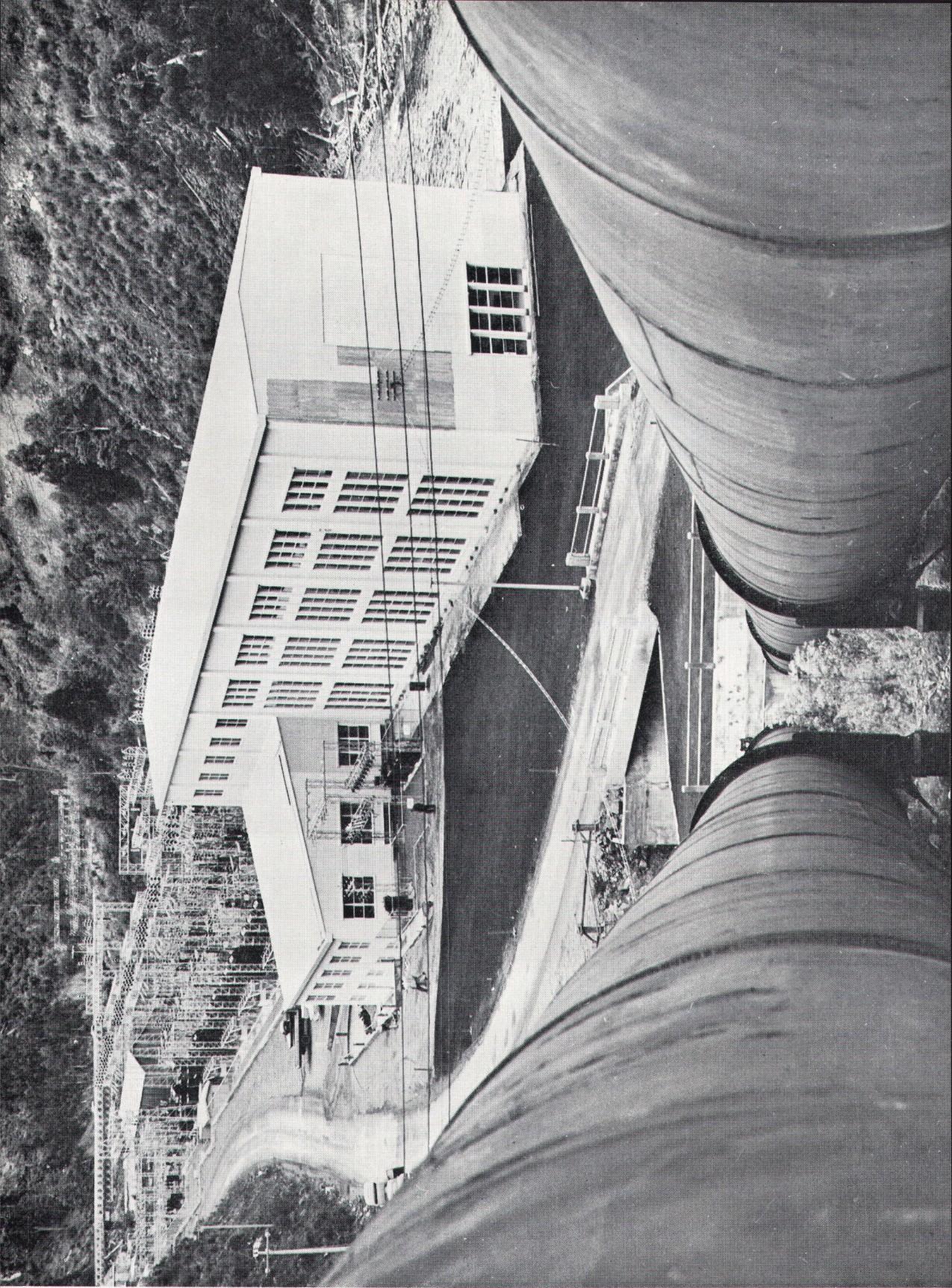
Cluny Power Station, Lower Derwent (17,000 kW)

The Gordon River Road near future dam site (the surface is quartz, not snow)

(Page 336)

(H.E.C.)





(*The Examiner*)

*A self-propelled irrigation plant
at work on pasture*



(Page 232)

(H.E.C.)

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Tungatinah Power Station on Nive River (125,000 kW)

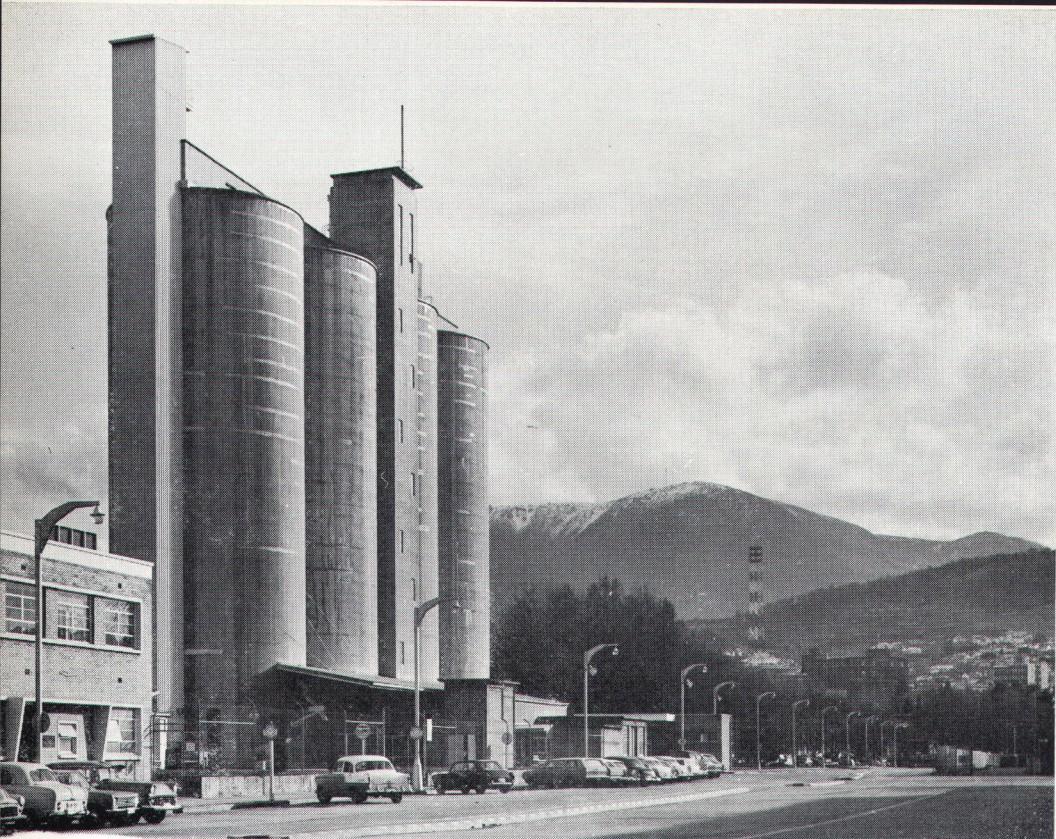


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(*The Examiner*)

The open-cut scheelite mine on King Island





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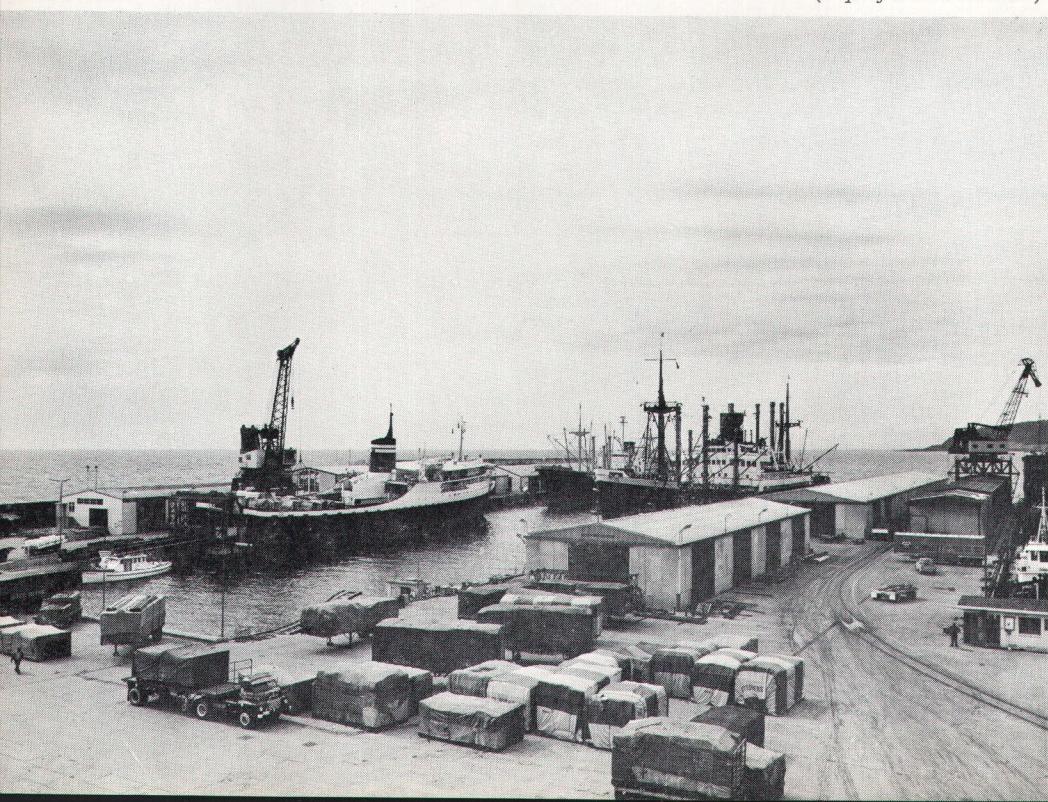
(Dept of Film Production)

Grain silos at Hobart with Mt Wellington in background

Part of the Port of Burnie

(Page 551)

(Dept of Film Production)



turbines while the other States rely basically on thermal plants (although the eastern States make limited use of hydro-electric power). The table shows comparative average prices for power in the Commonwealth:

Price of Electric Power—Tasmania and Other States, 1966-67 (a)
(Cents per Kilowatt Hour)

| State or Territory | Residential Sales | Commercial Sales | Industrial Sales | Average All Sales (b) |
|-----------------------------|-------------------|------------------|------------------|-----------------------|
| New South Wales | 1.93 | 2.86 | 1.56 | 1.90 |
| Victoria | 2.02 | 3.18 | 1.62 | 2.01 |
| Queensland | 2.05 | 3.12 | 1.79 | 2.17 |
| South Australia | 1.68 | 2.80 | 1.57 | 1.89 |
| Western Australia | 2.33 | 2.92 | 1.77 | 2.28 |
| Tasmania | 1.41 | 1.91 | 0.53 | 0.76 |
| Commonwealth Territories .. | 2.16 | (c) | (c) | 2.42 |
| Commonwealth (Average) .. | 1.94 | (d) | (d) | 1.85 |

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

(d) Not available.

It will be observed that the Tasmanian average is the *lowest* in all types of sale. The Tasmanian householder pays less per unit on the average than his counterpart on the Australian continent but the difference in residential price gives little indication of the economy of hydro-electric generation; this can be best obtained by comparing the prices charged industrial users.

The following table shows the amount of power sold in the Commonwealth:

Sales of Electric Power—Tasmania and Other States, 1966-67 (a)
(Million Kilowatt Hours)

| State or Territory | Residential Sales | Commercial Sales | Industrial Sales | Total Sales (b) |
|-----------------------------|-------------------|------------------|------------------|-----------------|
| New South Wales | 4,841.4 | 1,801.9 | 5,392.6 | 12,543.7 |
| Victoria | 3,230.0 | 1,296.2 | 3,877.4 | 8,741.7 |
| Queensland | 1,517.8 | 600.1 | 1,194.6 | 3,364.8 |
| South Australia | 1,160.3 | 374.6 | 1,097.4 | 2,655.7 |
| Western Australia | 546.0 | 300.6 | 446.6 | 1,315.5 |
| Tasmania | 712.5 | 130.8 | 2,766.0 | 3,625.2 |
| Commonwealth Territories .. | 221.0 | (c) | (c) | 517.2 |
| Commonwealth Total | 12,228.9 | (d) | (d) | 32,763.8 |

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by the Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

(d) Not available.

It is noteworthy that Tasmania, despite its small population, ranks third in total sales and third in industrial sales; no other State sells such a large proportion of total power to industrial users.

Industrial Use of Electric Power

It is possible to obtain some indication of the importance of industrial electrical power in Tasmania from the following table:

Industrial Electrical Energy Consumption (a) 1966-67

| Commonwealth Total (Six States) | Tasmanian Consumption | |
|---------------------------------|-----------------------|-------------------------------|
| | Total | Proportion of Six State Total |
| million kWh | million kWh | per cent |
| 14,775 | 2,766 | 18.72 |

(a) Source: 'Statistics of the Electricity Supply Association of Australia'.

When the Tasmanian proportion (18.72 per cent) is compared with Tasmania's share of the Australian population (3.2 per cent), the contribution of electrical power to the island's economy is seen in its correct perspective.

Finances of Hydro-Electric Commission

The table that follows shows the Commission's income and expenditure, and also its total loan debt for the last three years:

**Hydro-Electric Commission
Income, Expenditure and Net Loan Debt
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| INCOME | | | |
| Sales—Bulk Power | 8,834 | 9,297 | 9,952 |
| Retail Current | 15,920 | 16,734 | 17,976 |
| Other Income | 256 | 262 | 371 |
| Total | 25,009 | 26,293 | 28,299 |
| EXPENDITURE | | | |
| Operation, Distribution, Administration .. | 8,187 | 9,170 | 9,589 |
| Interest on Loans and Reserves | 11,620 | 12,797 | 14,241 |
| <i>Less</i> Interest Capitalised | — 1,093 | — 1,292 | — 1,966 |
| Depreciation Provision | 2,986 | 3,064 | 3,196 |
| Superannuation Contribution | 989 | 865 | 922 |
| Other Expenditure | 811 | 967 | 1,076 |
| Net Profit | 1,509 | 723 | 1,242 |
| Total | 25,009 | 26,293 | 28,299 |
| NET LOAN DEBT AT 30 JUNE | | | |
| Net Loan Indebtedness to State Treasury .. | 224,961 | 239,425 | 255,229 |
| Other Loans | 22,701 | 23,702 | 25,802 |
| Total | 247,662 | 263,127 | 281,031 |

At 30 June 1968, net loan debt was \$309.0m, the liability to the State Treasury standing at \$278.2m.

Chapter 9

SOCIAL CONDITIONS

HOUSING AND BUILDING

Dwelling Statistics, 1966 Census

General

The following section deals with the number of dwellings in Tasmania at two successive Censuses, those of 1961 and 1966. For a definition of the Hobart Statistical Division, the Hobart Metropolitan Area and Urban Launceston, see Chapter 5, 'Demography' (and the maps at back of book).

Terms used to describe various classes of dwellings are defined below.

Occupied Dwelling

An occupied dwelling is any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building. The term, therefore, has a very wide reference.

Private Dwellings

Private dwellings are further classified into the following four categories:
Private House: These include houses, sheds, huts, garages, etc. used for dwelling purposes, and shared private houses for which only one Householder's Schedule was received.

Share of Private House: This is a portion of a shared private house occupied separately and for which a separate Householder's Schedule was furnished.

Flat: This is a part of a house or other building which can be completely closed off and which has its own cooking and bathing facilities.

Other Private Dwellings: These include private dwellings such as rooms, apartments, etc. which are parts of buildings but are not self-contained units.

Other Than Private Dwellings

These include hotels; motels; boarding houses; hostels; educational, religious and charitable institutions; hospitals; defence and penal establishments; police and fire stations; residential clubs; staff barracks and quarters, etc.

Unoccupied Dwellings

These include vacant dwellings available for sale or renting; dwellings such as 'week-enders', 'holiday-home', 'second home', 'seasonal workers' quarters', which were not occupied on the night of the census; dwellings normally occupied but whose usual occupants were temporarily absent on the night of the census; newly completed dwellings whose owners or tenants had not entered into occupation on the night of the census; dwellings described as 'to be demolished', 'condemned', 'deceased estate' and buildings constructed as dwellings but used for non-dwelling purposes on the night of the census. The total of unoccupied dwellings must not be read as the number of vacant houses and flats available for sale or renting.

Dwellings at 1966 Census

The following shows the classification of occupied dwellings in Tasmania at the 1966 Census:

Occupied Dwellings at Census of 30 June 1966

| Description | Private Dwellings (no.) | Description | Other Than Private Dwellings (no.) |
|-----------------------------|-------------------------|---|------------------------------------|
| House | 88,779 | Hotels and Motels .. . | 296 |
| Shed, Hut, etc. .. . | 882 | Boarding Houses, Guest Houses, etc. .. . | 346 |
| Share of Private House .. . | 469 | Educational, Religious and Charitable Institutions .. . | 88 |
| Flat | 7,036 | Hospitals | 48 |
| Other | 1,115 | Other (a) | 306 |
| Total | 98,281 | Total | 1,084 |

(a) Includes 240 described as 'staff barracks, quarters, etc.'

The next table has been compiled to show all Tasmanian dwellings in local government areas at two successive Censuses. The groups headed 'Occupied' include both *private* and *other than private* dwellings (as shown in the previous table, *other than private* dwellings in 1966 accounted for slightly more than one per cent of all occupied dwellings). The number of occupied private dwellings in 1961 was 90,198 so there was an increase of 8,083 such dwellings in the intercensal period 1961-1966. The data shown in the 1968 *Year Book* were preliminary and have been revised in this edition.

Dwellings in Local Government Areas (Revised)**Censuses of 30 June 1961 and 1966**

| Local Government Area and Statistical Division | Occupied Dwellings | | Unoccupied Dwellings (a) | |
|--|--------------------|--------|--------------------------|-------|
| | 1961 | 1966 | 1961 | 1966 |
| Hobart (H) | 15,281 | 15,562 | 507 | 819 |
| Glenorchy (H) | 8,834 | 10,120 | 172 | 299 |
| Clarence (H) | 5,649 | 7,567 | 623 | 706 |
| Brighton (SE) (H) | 548 | 573 | 73 | 59 |
| Glamorgan (SE) | 326 | 345 | 166 | 225 |
| Green Ponds (SE) | 265 | 250 | 27 | 24 |
| Richmond (SE) | 453 | 465 | 48 | 60 |
| Sorell (SE) (H) | 807 | 942 | 698 | 709 |
| Spring Bay (SE) | 330 | 344 | 186 | 230 |
| Bruny (S) | 152 | 131 | 150 | 210 |
| Esperance (S) | 892 | 970 | 208 | 278 |
| Huon (S) | 1,367 | 1,375 | 259 | 219 |
| Kingborough (S) (H) | 2,673 | 2,794 | 265 | 393 |
| New Norfolk (S) (H) | 2,225 | 2,295 | 320 | 210 |
| Port Cygnet (S) | 673 | 657 | 70 | 156 |
| Tasman (S) | 306 | 318 | 129 | 244 |
| Total—Hobart Div. | 40,781 | 37,947 | 3,901 | 2,807 |
| SE. Div. | | 2,019 | | 727 |
| S. Div. | | 4,742 | | 1,307 |
| Launceston | 11,004 | 11,078 | 435 | 571 |
| Total N. Cent. Div. | 11,004 | 11,078 | 435 | 571 |

Dwellings in Local Government Areas (Revised)
Censuses of 30 June 1961 and 1966—continued

| Local Government Area and Statistical Division | Occupied Dwellings | | Unoccupied Dwellings (a) | |
|--|--------------------|--------|-----------------------------|--------|
| | 1961 | 1966 | 1961 | 1966 |
| Burnie | 4,180 | 4,773 | 124 | 158 |
| Circular Head | 1,866 | 1,982 | 110 | 237 |
| Deloraine | 1,444 | 1,417 | 110 | 120 |
| Devonport | 3,896 | 4,623 | 184 | 170 |
| Kentish | 1,094 | 1,333 | 107 | 135 |
| King Island | 661 | 632 | 122 | 114 |
| Latrobe | 1,110 | 1,238 | 237 | 178 |
| Penguin | 1,158 | 1,204 | 58 | 51 |
| Ulverstone | 2,498 | 2,769 | 219 | 185 |
| Wynyard | 2,208 | 2,481 | 151 | 212 |
| Total NW. Div. | 20,115 | 22,452 | 1,422 | 1,560 |
| Beaconsfield | 2,370 | 2,754 | 513 | 627 |
| Fingal | 1,142 | 1,031 | 131 | 225 |
| Flinders | 302 | 325 | 28 | 58 |
| George Town | 881 | 1,225 | 364 | 366 |
| Lilydale | 1,557 | 1,892 | 87 | 84 |
| Portland | 379 | 424 | 334 | 469 |
| Ringarooma | 807 | 785 | 112 | 128 |
| Scottsdale | 916 | 992 | 227 | 232 |
| Total NE. Div. | 8,354 | 9,428 | 1,796 | 2,209 |
| Evandale | 429 | 422 | 62 | 59 |
| Longford | 1,711 | 1,535 | 83 | 130 |
| St Leonards | 2,706 | 3,480 | 113 | 173 |
| Westbury | 1,273 | 1,369 | 86 | 83 |
| Total N. Mid. Div. | 6,119 | 6,806 | 344 | 445 |
| Bothwell | 338 | 297 | 194 | 269 |
| Campbell Town | 496 | 483 | 41 | 93 |
| Hamilton | 968 | 1,001 | 172 | 220 |
| Oatlands | 748 | 722 | 72 | 75 |
| Ross | 187 | 173 | 8 | 16 |
| Total Mid. Div. | 2,737 | 2,676 | 487 | 673 |
| Gormanston | 113 | 120 | 18 | 10 |
| Queenstown | 1,106 | 1,108 | 43 | 38 |
| Strahan | 135 | 126 | 44 | 68 |
| Waratah | 106 | 107 | 14 | 9 |
| Zeehan | 688 | 756 | 78 | 109 |
| Total W. Div. | 2,148 | 2,217 | 197 | 234 |
| Total Tasmania | 91,258 | 99,365 | 8,582 | 10,533 |
| Metropolitan Hobart | (b) | 32,371 | (b) | 1,307 |
| Urban Launceston | (b) | 16,918 | (b) | 808 |
| Rest of State | (b) | 50,076 | (b) | 8,418 |

(a) Private dwellings only.

(b) Not available.

Building Statistics

Scope

In the section that follows, building statistics relate exclusively to the erection of new buildings, including major new additions to existing buildings; construction work such as the building of railways, bridges, earthworks,

water storages, piers, wharves, etc. is excluded. Minor additions, alterations, renovations and repairs to buildings are also excluded because of the difficulty of obtaining lists of persons who undertake this work.

When a dwelling is attached to a new building, the whole unit, both in regard to number and value, is classified according to the type of new building (e.g. a new shop and dwelling is classified simply as a shop). Figures for flats include 'home units', but not conversions of existing buildings into flats. Number of flats refers to number of new individual dwelling units.

Details obtained from government authorities on their construction programmes and from building contractors refer to all parts of the State. Details for owner-builders cover only those areas subject to building control by local government authorities; thus, some farm buildings are excluded, but this does not affect the figures materially.

Source of Data

The main statistics relate to building approvals and to building operations (commencements, completions, etc.). The data are derived as follows:

Building Approvals: These comprise (a) approvals by local government authorities for the construction of private buildings; (b) contracts let and day labour projects commenced by governmental authorities; (c) private buildings reported by contractors to have been commenced in certain areas of the few rural municipalities where building regulations do not apply to the whole municipality. Details are compiled monthly.

Building Operations: Returns are obtained from (a) building contractors engaged in the erection of new buildings; (b) owner-builders; (c) Commonwealth, State, local and semi-government authorities. Statistics are compiled at quarterly intervals.

Definitions

Contract-built: Includes the operations of all building contractors and government authorities which undertake the erection of new buildings.

Owner-built: An 'owner-built' house is one actually erected or being erected by the owner, or under the owner's direction, without the services of a contractor who is responsible for the whole job.

Commenced: A building is regarded as having been commenced when work on the foundations has begun.

Completed: A building is regarded as having been completed when the contractor has fulfilled the terms of the contract.

Both with 'completions' and 'commencements', there is some difficulty in maintaining a uniform classification since the definition of an exact point of time in building operations is involved.

Under Construction: A building is so classified if it is uncompleted at the end of the period, whether or not work on it was actively proceeding at that date.

Values: All values shown exclude the value of land and represent the estimated value of buildings *on completion*. In the case of owner-built dwellings, the owner-builder is required to estimate the value from the cost of the materials and the cost of labour, including his own.

New buildings, including dwellings, with an estimated value on completion of less than \$1,000 are excluded from the tabulations.

Building Approvals

The following table shows details of building approvals; a distinction is made between 'private' and 'government', and the information is dissected to give separate figures for the Hobart Metropolitan Area, Urban Launceston and the remainder of the State. In 1966-67, nearly 41 per cent of the total value of building approvals was attributed to the Hobart Metropolitan Area, 9 per cent to Urban Launceston and 50 per cent to the remainder of the State.

Building Approvals, 1966-67

| Particulars | Hobart Metropoli- tan Area | Urban Launcest- on | Remainder of State | Total Tasmania |
|------------------------------|----------------------------------|--------------------------|--------------------------|---------------------|
| New Houses— | | | | |
| Private | no. 558 246 | no. 262 92 | no. 1,680 380 | no. 2,500 718 |
| Total | 804 | 354 | 2,060 | 3,218 |
| Value— | \$'000 | \$'000 | \$'000 | \$'000 |
| New Houses—Private | 5,648 1,660 | 2,469 535 | 12,940 2,525 | 21,057 4,720 |
| Government | | | | |
| Other New Buildings (a)— | | | | |
| Private | 5,684 8,888 | 1,371 459 | 9,099 2,675 | 16,154 12,022 |
| Government | | | | |
| Alterations and Additions— | | | | |
| Private | 731 49 | 398 37 | 751 93 | 1,880 179 |
| Government | | | | |
| Total Value—Private | 12,063 10,597 | 4,239 1,030 | 22,789 5,294 | 39,091 16,921 |
| Total | 22,660 | 5,269 | 28,083 | 56,012 |

(a) Includes flats.

The next table shows building approvals on a State basis:

Building Approvals

| Particulars | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| New Houses— | | | | | | |
| Private | no. 2,234 489 | no. 1,921 550 | no. 2,064 584 | no. 2,062 607 | no. 1,837 591 | no. 2,500 718 |
| Total | 2,723 | 2,471 | 2,648 | 2,669 | 2,428 | 3,218 |
| Value— | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| New Houses—Private | 13,052 2,814 | 13,328 3,214 | 15,424 3,422 | 16,452 3,756 | 15,229 3,854 | 21,057 4,720 |
| Government | | | | | | |
| Other New Buildings (a)— | | | | | | |
| Private | 8,212 4,698 | 9,368 9,840 | 7,240 6,456 | 11,490 11,058 | 19,843 7,976 | 16,154 12,022 |
| Government | | | | | | |
| Alterations and Additions— | | | | | | |
| Private | 1,716 472 | 1,472 194 | 1,696 282 | 1,666 450 | 1,614 355 | 1,880 179 |
| Government | | | | | | |
| Total Value—Private Govt | 22,980 7,984 | 24,168 13,248 | 24,360 10,160 | 29,608 15,264 | 36,686 12,185 | 39,091 16,921 |
| Total | 30,964 | 37,416 | 34,520 | 44,872 | 48,870 | 56,012 |

(a) Includes flats.

Construction of New Houses

Although building statistics include the construction of shops, factories, offices, hotels, etc., the erection of new houses is possibly the most interesting field because of its social significance. During World War II, the shortage of materials and manpower virtually brought house construction to a halt, with the result that there was an acute shortage when hostilities ceased; the prosperous state of the economy in the post-war years aggravated the situation by increasing the demand for home ownership.

Government Construction of Houses: The post-war era was notable for the entry of the State Government into the housing field on a large scale; in November 1945, the Commonwealth Government entered into an agreement with the States whereby it would provide finance for, and the State Governments would undertake the building of, housing projects. Under the agreement, Tasmania received \$5,670,000 which it repaid on withdrawing from the scheme in August 1950. The Tasmanian Government nevertheless continued to build houses using the resources available from its own Loan Fund; at 30 June 1967, its aggregate net loan expenditure on housing advances and housing construction totalled \$27,692,000. In 1956, the State Government entered into a new agreement with the Commonwealth, an arrangement renewed with minor modifications in 1961 and 1966. The aggregate net advances in Tasmania to 30 June 1967, under the Commonwealth-State Agreements, amounted to \$57,260,000. (Advances under the Commonwealth-State Agreements are additional to State net loan expenditure.)

The following table shows, for Tasmania, the number of new houses completed, and distinguishes between those built for government authorities and those built for private persons:

**Number of New Houses Completed
For Government Authorities and Private Persons**

| Year | For Government Authorities | For Private Persons | Total | Year | For Government Authorities | For Private Persons | Total |
|---------|----------------------------|---------------------|-------|---------|----------------------------|---------------------|-------|
| 1951-52 | 1,133 | 2,866 | 3,999 | 1959-60 | 443 | 2,032 | 2,475 |
| 1952-53 | 883 | 2,431 | 3,314 | 1960-61 | 473 | 2,014 | 2,487 |
| 1953-54 | 716 | 1,914 | 2,630 | 1961-62 | 547 | 1,850 | 2,397 |
| 1954-55 | 720 | 1,760 | 2,480 | 1962-63 | 563 | 1,941 | 2,504 |
| 1955-56 | 729 | 1,992 | 2,721 | 1963-64 | 554 | 1,957 | 2,511 |
| 1956-57 | 585 | 2,174 | 2,759 | 1964-65 | 579 | 2,000 | 2,579 |
| 1957-58 | 611 | 1,955 | 2,566 | 1965-66 | 557 | 1,703 | 2,260 |
| 1958-59 | 506 | 2,071 | 2,577 | 1966-67 | 627 | 2,138 | 2,765 |

The proportion of houses built for government authorities has fluctuated between 30 per cent of total houses completed (1950-51) to as low as 18 per cent (1959-60); in 1966-67, the proportion was nearly 23 per cent. Statistics of houses completed for government authorities do not fully reflect the effect of government policy since the category 'houses built for private persons' includes construction financed, in some cases, by government loans to private persons. Of the \$57,260,000 aggregate net advances made in Tasmania to 30 June 1967, under the Commonwealth-State Housing Agreements, 29 per cent represents advances to private persons, either through the mechanism of the Agricultural Bank or the co-operative building societies. Similarly, 'houses built for private persons' includes those built with advances under the Commonwealth's *War Service Homes Act* where the ex-serviceman has obtained the services of a private contractor or operates as an owner-builder.

The principal construction authority in Tasmania is the State Housing Department but 'houses built for government authorities' includes also construction by the Public Works Department for various departments and authorities, group schemes of the War Service Homes Division and farm houses erected under the War Service Land Settlement Scheme.

New Houses Constructed: The next table shows details of commencements, completions, etc., both with regard to number and value:

Construction of New Houses

| Year | Commenced | | Completed | | Under Construction (a) | |
|---------------|-----------|------------------------------|-----------|------------------------------|------------------------|------------------------------|
| | Number | Value (When Completed) | Number | Value (When Completed) | Number | Value (When Completed) |
| 1950-51 | 4,122 | \$m 14.9 | 3,914 | \$ m 13.5 | 3,558 | \$ m 14.2 |
| 1951-52 | 3,584 | 15.3 | 3,999 | 16.3 | 3,143 | 14.4 |
| 1952-53 | 2,285 | 10.6 | 3,314 | 15.2 | 2,114 | 10.6 |
| 1953-54 | 2,665 | 13.2 | 2,630 | 13.5 | 2,149 | 11.3 |
| 1954-55 | 2,867 | 14.6 | 2,480 | 12.8 | 2,536 | 13.4 |
| 1955-56 | 2,490 | 13.6 | 2,721 | 14.8 | 2,305 | 12.8 |
| 1956-57 | 2,591 | 14.8 | 2,759 | 15.7 | 2,137 | 12.2 |
| 1957-58 | 2,378 | 14.5 | 2,566 | 15.6 | 1,949 | 11.4 |
| 1958-59 | 2,563 | 15.5 | 2,577 | 15.3 | 1,935 | 11.8 |
| 1959-60 | 2,357 | 14.9 | 2,475 | 15.5 | 1,817 | 11.3 |
| 1960-61 | 2,248 | 15.1 | 2,487 | 16.3 | 1,578 | 10.3 |
| 1961-62 | 2,475 | 16.3 | 2,397 | 15.7 | 1,656 | 10.7 |
| 1962-63 | 2,442 | 16.0 | 2,504 | 16.5 | 1,594 | 10.3 |
| 1963-64 | 2,550 | 18.4 | 2,511 | 17.3 | 1,633 | 11.3 |
| 1964-65 | 2,546 | 19.5 | 2,579 | 19.2 | 1,600 | 11.6 |
| 1965-66 | 2,202 | 17.8 | 2,260 | 17.8 | 1,542 | 11.6 |
| 1966-67 | 2,952 | 24.6 | 2,765 | 22.1 | 1,729 | 14.1 |

(a) At end of year.

In 1966-67, the increase in commencements and completions was due, in part, to the replacement of some of the 1,200 dwellings lost in the bushfires of February 1967.

Material of Outer Walls: The following table shows the number of new houses completed and their classification according to the material used in their outer walls. Until recently, wood has been the predominant material used for outer wall construction but the trend of the last ten years has revealed a growing preference for brick veneer. In 1964-65, for the first time, new houses completed with brick veneer walls exceeded those completed with wooden walls.

Number of New Houses Completed Classified by Material of Outer Walls

| Material of Outer Walls | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| Brick, Concrete, etc.— | | | | | | |
| Solid | 442 | 231 | 178 | 174 | 128 | 167 |
| Veneer | 261 | 775 | 920 | 1,178 | 1,126 | 1,159 |
| Wood (Weatherboard, etc.) | 1,975 | 1,426 | 1,337 | 1,142 | 932 | 1,073 |
| Fibro-Cement | 81 | 72 | 76 | 78 | 62 | 354 |
| Other | .. | .. | .. | 7 | 12 | 12 |
| Total | 2,759 | 2,504 | 2,511 | 2,579 | 2,260 | 2,765 |

Construction of New Houses and Flats

In the following table, details are given of completions of new houses and new flats:

New Houses and Flats Completed

| Particulars | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|
| NUMBER COMPLETED | | | | | | |
| New Houses— | | | | | | |
| Government Ownership— | | | | | | |
| Contract Built | 264 | 288 | 271 | 275 | 309 | 360 |
| Day Labour | 321 | 275 | 283 | 304 | 248 | 267 |
| Private Ownership— | | | | | | |
| Contract Built | 875 | 1,086 | 1,061 | 1,200 | 1,015 | 1,223 |
| Owner Built | 1,299 | 855 | 896 | 800 | 688 | 915 |
| Total New Houses .. | 2,759 | 2,504 | 2,511 | 2,579 | 2,260 | 2,765 |
| New Flats (Individual Units) (a) | 105 | 97 | 164 | 153 | 221 | 185 |
| Total New Houses and Flats | 2,864 | 2,601 | 2,675 | 2,732 | 2,481 | 2,950 |

VALUE (\$'000)

| | | | | | | |
|----------------------------------|--------|--------|--------|--------|--------|--------|
| New Houses | 15,714 | 16,484 | 17,332 | 19,216 | 17,806 | 22,063 |
| New Flats (Individual Units) (a) | 720 | 404 | 738 | 844 | 1,204 | 1,167 |

(a) Individual dwelling units; conversions of existing dwellings to flats are excluded.

Construction of All New Buildings

The previous tables in this section have been concerned with the construction of new houses, or of new houses and flats. In the five years ended 30 June 1967, the value of houses and flats completed has approximated 50 per cent of the total value of all new buildings completed in each year. The next table shows the value of all new buildings completed; the various types of building are specified and houses and flats are included to allow comparison.

Value of All New Buildings Completed (a)—Classified According to Type (\$'000)

| Type of Building | 1956-57 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| Houses | 15,714 | 16,484 | 17,332 | 19,216 | 17,806 | 22,063 |
| Flats | 720 | 404 | 738 | 844 | 1,204 | 1,167 |
| Hotels, Guest Houses, etc. .. | 120 | 1,590 | 370 | 980 | 264 | 1,301 |
| Shops | 986 | 868 | 944 | 1,216 | 1,529 | 835 |
| Factories | 1,244 | 5,050 | 2,844 | 2,536 | 2,218 | 5,891 |
| Offices | 1,042 | 1,210 | 2,210 | 1,246 | 1,454 | 2,711 |
| Other Business Premises .. | 1,412 | 2,306 | 1,866 | 2,332 | 2,731 | 4,338 |
| Educational | 1,320 | 1,956 | 3,454 | 2,586 | 5,113 | 2,616 |
| Religious | 44 | 290 | 238 | 308 | 254 | 321 |
| Health | 1,086 | 2,148 | 2,060 | 3,272 | 4,086 | 4,103 |
| Entertainment and Recreation .. | 340 | 826 | 886 | 1,008 | 666 | 577 |
| Miscellaneous | 1,190 | 996 | 1,034 | 2,200 | 2,355 | 2,293 |
| Total | 25,218 | 34,128 | 33,976 | 37,744 | 39,680 | 48,218 |

(a) Includes estimated value of owner-built houses.

The following table gives details of the total value of all new buildings commenced, completed and under construction. A specification of the items included under 'all new buildings' appears in the previous table.

Value (When Completed) of All New Buildings (a)
(\$ million)

| Year | Com-menced | Com-pleted | Under Construc-tion (b) | Year | Com-menced | Com-pleted | Under Construc-tion (b) |
|---------|------------|------------|-------------------------|---------|------------|------------|-------------------------|
| 1957-58 | 25.5 | 25.7 | 23.9 | 1962-63 | 34.6 | 34.1 | 28.4 |
| 1958-59 | 28.8 | 26.9 | 26.1 | 1963-64 | 34.7 | 34.0 | 29.1 |
| 1959-60 | 36.5 | 31.6 | 31.2 | 1964-65 | 42.0 | 37.7 | 33.5 |
| 1960-61 | 28.3 | 34.0 | 25.9 | 1965-66 | 43.8 | 39.7 | 37.4 |
| 1961-62 | 35.4 | 33.5 | 27.8 | 1966-67 | 62.1 | 48.2 | 51.3 |

(a) Includes estimated value of owner-built houses.

(b) At end of period.

The State Housing Department

General

The Housing Department was established in July 1953 as a separate authority to administer that portion of the *Homes Act 1953* which relates to the purchase and development of land for housing, and the erection of homes for rental and sale. Funds for these purposes are made available under the Commonwealth-State Housing Agreement; the funds form part of the State's annual loan borrowings (but are excluded from the State Public Debt). The Department uses both day-labour and private contractors and has its own factory which incorporates joinery works, timber mill, plumbing and electrical workshops, etc. Most dwellings constructed are three-bedroom timber units usually roofed with corrugated iron. Flats for elderly persons and multi-unit flats have also been constructed.

Department's Construction of Dwellings

During 1966-67, 595 dwellings (houses and individual dwelling units in flats) were completed. The following table shows the aggregate of dwelling units produced by the Housing Department (and by an earlier State housing construction authority) since 1944:

Aggregate of Dwellings Constructed by State Housing Department
From 1944 to 30 June 1967 (a)

| Type of Dwelling | One Bedroom | Two Bedroom | Three Bedroom | Total |
|--|-------------|-------------|---------------|--------|
| Single Unit—Timber | .. | 562 | 7,604 | 8,166 |
| Other Material | .. | 118 | 1,457 | 1,457 |
| Elderly Persons' Flatettes | 102 | 12 | .. | 220 |
| Maisonettes | .. | 12 | 10 | 22 |
| Multi-unit Flats (Individual Units) | 125 | 157 | 14 | 296 |
| Total Dwelling Units | 227 | 849 | 9,085 | 10,161 |

(a) Construction to 30 June 1953 undertaken by Housing Division of State Agricultural Bank; subsequent construction by State Housing Department.

Dwellings for Rental

Flats, maisonettes and elderly persons' homes are for rental only. Although generally houses are allotted on a purchase-contract basis, they may under certain circumstances be rented. The weekly rental of a newly erected three-

bedroom timber house in the Hobart metropolitan area approximated \$13.15 in the June quarter 1968. In certain necessitous cases, rental rebates are allowed. Rebates on rentals of elderly persons' flatettes are graduated according to the incomes of the occupiers. Under the current rental rebate formula, a married couple whose only income is the age pension pay \$3.85, while a single person solely dependent on the pension pays \$2.00 a week. (These rates were current in June 1968.)

Dwellings for Sale

Sales are made on a no-deposit purchase-contract basis with repayments over a maximum term of 53 years, but buyers are encouraged to pay a deposit if they are in a position to do so. When the agreed purchase price and other charges have been paid, ownership of the property is transferred from the Department to the purchaser. Purchase contracts are sometimes surrendered to the Department; when this happens, any equity which may have been established in the property is forfeited. Purchasers may sell their homes in certain circumstances. The aggregate number of purchase contracts less surrenders entered into by 30 June 1967 was 6,694. The sale price, excluding land, of a new three-bedroom house in the Hobart metropolitan area was approximately \$7,800 in the June quarter 1968. Elsewhere prices tend to be slightly lower.

The weekly repayment instalment for a dwelling is less than the weekly rent of a similar dwelling, because a purchaser is responsible for maintenance.

Amounts outstanding in respect of loans made by the Housing Department by way of purchase contracts are shown in the following table:

Housing Department—Purchase Contracts At 30 June

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|-------------------------|--------|--------|--------|--------|--------|
| Loans Outstanding— | | | | | |
| Number | 4,428 | 4,835 | 5,354 | 5,781 | 6,163 |
| Value (\$'000) | 27,181 | 30,206 | 34,098 | 37,452 | 40,583 |

The interest rate on contracts signed after 1 May 1965 was $4\frac{1}{4}$ per cent, immediately prior to which the rate was four per cent. To be eligible for purchase contract terms, an applicant must be married or about to be married, or have dependants for whom it is necessary to provide a home. Number of dependants, income and existing accommodation are considered in determining an applicant's priority.

Agricultural Bank of Tasmania—Advances to Homebuilders

Housing Function

The Agricultural Bank, as an approved institution under the Commonwealth-State Housing Agreement, receives part of Commonwealth housing funds for advances to home builders. Prior to the commencement of the agreement (1956), the Bank borrowed from the State Loan Fund and from private institutions. To be eligible for a loan, an applicant must be married or about to be married or have dependants for whom it is necessary to provide a home, and be over the age of 21 years; he must also own a block of land. The maximum amount of an advance is \$8,000 for all types of houses, provided that the total advance does not exceed 90 per cent of the Bank's valuation of land and dwelling cost. Advances are repayable by equated instalments over a period of up to 31 years. Advances made since 1 July 1965 have been at $5\frac{3}{4}$ per cent, immediately prior to which the rate was $5\frac{1}{2}$ per cent.

The following table shows details for recent years:

Agricultural Bank—Advances for Housing (a)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------------|---------|---------|---------|---------|---------|
| Advances Approved— | | | | | |
| Number | 157 | 302 | 304 | 214 | 279 |
| Value (\$'000) | 972 | 2,090 | 2,108 | 1,479 | 2,159 |
| Advances Outstanding (b) (\$'000) | 9,992 | 11,244 | 12,746 | 14,086 | 14,930 |

(a) Excludes advances to building societies.

(b) At end of period.

The Agricultural Bank also acts as agent for the State in the transmission of advances under the Commonwealth-State Housing Agreement to the co-operative building societies; details of such advances and of the building societies appear in Chapter 11, 'Finance'.

Following the bushfire disaster of February 1967, the Bank was required to administer a scheme providing finance for home owners who wanted to build homes to their own design. The sum advanced in 1966-67 was \$12,000.

General The Commonwealth Department of Housing

The Department has four main functions: (i) to assist certain ex-servicemen obtain housing with finance made available on a term of up to 45 years at an interest rate of $3\frac{3}{4}$ per cent, (ii) to administer the Homes Savings Grant Scheme, (iii) to advise the Federal Minister on the Commonwealth-State Housing Agreements, and (iv) to advise on the administration of the Housing Loans Insurance Scheme. A further function is to provide and manage self-contained furnished accommodation for migrant families, tenancy being limited to six months.

War Service Homes Loans

Broadly, to be eligible for a loan, an ex-serviceman must have dependants, and must have volunteered for or had overseas service. Also he must not be the owner of a home at the time of seeking a loan. The following table shows details of War Service Homes activities in the provision of finance for Tasmanian housing. Transfers of loans (and of course houses) between borrowers are not shown as expenditure, nor are details given of additional loans advanced for alterations, etc. to homes already subject to War Service Homes finance.

War Service Homes Operations: Homes Financed in Tasmania

| Year | Loans Approved (a) | Homes Financed | | | Expenditure |
|---------------|--------------------|---------------------|-------------|--------------------------|--------------|
| | | Homes Purchased (b) | Homes Built | Mortgages Discharged (c) | |
| 1962-63 | no. 247 | no. 78 | no. 120 | no. 30 | \$'000 1,550 |
| 1963-64 | 237 | 114 | 60 | 48 | 1,584 |
| 1964-65 | 232 | 133 | 59 | 24 | 1,486 |
| 1965-66 | 252 | 167 | 35 | 24 | 1,562 |
| 1966-67 | 184 | 107 | 25 | 37 | 1,170 |

(a) Loans approved are not necessarily paid out in the same year. A transfer from one borrower and a resale to another is included as a loan approved, but not included elsewhere.

(b) New or old existing properties, not previously subject to War Service Homes finance.

(c) Mortgages, raised by individuals to build homes, discharged by the Division on satisfactory completion of the home.

Homes Savings Grant Scheme

The scheme was introduced by the Commonwealth Government in 1964 to encourage young people to save for their first marital home ('young' means under 36 years at the time of signing the contract).

The maximum grant (a gift) is \$500; the actual amount is assessed on the amount saved and the time and rate of saving up to the signing of a contract to build or buy a home. The following table details grants made since inception of the scheme:

Home Savings Grants in Tasmania

| Year | Grants Approved for— | | | Grants Made | Expenditure |
|---------------|----------------------|-------------------------|--------------------|-------------|-------------|
| | Home Purchase | Contractor Construction | Owner Construction | | |
| | no. | no. | no. | no. | \$'000 |
| 1964-65 | 396 | 306 | 134 | 813 | 364 |
| 1965-66 | 341 | 240 | 174 | 760 | 325 |
| 1966-67 | 395 | 172 | 117 | 684 | 273 |

Loans Insured

Under the Housing Loans Insurance Scheme, 366 loans were insured in Tasmania for a total value of \$3,022,000.

EDUCATION IN TASMANIA**Introduction**

This section deals with: (i) education in government and non-government schools; (ii) technical education; (iii) adult education; (iv) university education; (v) Commonwealth activity in education.

The task of Tasmanian educational authorities, as in other Australian States in the post-war period, has been to provide more schools, more teachers and better facilities; the principal factors exerting pressure have been: (i) a rapidly growing school population; (ii) a change in attitude resulting in increased demand for secondary and tertiary education; (iii) community acceptance of the need for better education in general.

A notable recent change was the 1967 amendment of the *Education Act* 1932; this allowed the State Government to begin making grants to independent (non-government) schools and brought to an end a period of 82 years in which the State accepted no financial responsibility for this type of education.

Schools, Government and Non-Government*Attendance*

Tasmania became, in 1869, the first colony in the British Empire to make it compulsory for a parent to educate his child. In 1898 school attendance was made obligatory between the ages of 7 and 13, and in 1912, between 6 and 14. In 1946, Tasmania became the only Australian State to make it compulsory for children to attend school until their sixteenth birthday, and government and non-government systems of education were then reorganised to provide a three, four or five-year post-primary course. (The pre-war system of secondary education had comprised two stages, a three-year course followed

by a two-year course; with a leaving age of 14, and with *selective entry* to government high schools, the proportion of pre-war pupils taking secondary education was very low.)

The following table shows the dual nature of educational responsibility in Tasmania and gives the numbers of pupils in both government and non-government schools, in primary and secondary grades:

Government and Non-Government Schools
Total Pupils Enrolled at 1 August

| Particulars | 1963 | r 1964 | 1965 | 1966 | 1967 |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|
| Government Schools— | | | | | |
| Primary Grades | 47,300 | 47,931 | 48,501 | 48,759 | 49,827 |
| Secondary Grades | 21,470 | 22,061 | 22,378 | 22,962 | 23,659 |
| Special (a) | 863 | 651 | 736 | 740 | 779 |
| Total | 69,633 | 70,643 | 71,615 | 72,461 | 74,265 |
| Non-Government Schools— | | | | | |
| Primary Grades | 8,444 | 8,548 | 8,634 | 8,621 | 8,633 |
| Secondary Grades | 5,645 | 5,837 | 6,054 | 6,122 | 6,280 |
| Total | 14,089 | 14,385 | 14,688 | 14,743 | 14,913 |
| Total All Schools .. | 83,772 | 85,028 | 86,303 | 87,204 | 89,178 |

(a) Correspondence school pupils studying normal school subjects allocated to primary or secondary from 1964.

r Revised.

The State (or Government) School System

Introduction

The present system had its genesis in the *Education Act 1885*, a department being established and a Director of Education appointed responsible to a Minister. Under the Act, aid to non-government schools was abolished and only in 1967 was this principle re-introduced (with a system of capitation subsidies).

Education is compulsory between the ages of 6 and 16 years although, in some cases, special exemptions may be obtained. Virtually all schools are co-educational. Education is secular and free; parents buy their children's books, paints, instruments, etc. Pupil's transport is either provided by the Department or subsidised where daily travel costs exceed eight cents. The arrangement of transport has been important in the organisation of area, district and high schools where educational facilities are concentrated and centralised, thereby eliminating the smaller country schools.

Present Organisation

Under the Director-General operate three Directors designated (i) primary; (ii) secondary; and (iii) technical. Superintendents are responsible for specific activities and districts; supervisors assist in administration and provide services to schools. Specialist sections deal with curriculum, teaching aids, science equipment, speech education, music, physical education, guidance and welfare, school libraries, educational planning and research, etc.

Enrolment

The following table shows enrolments in government schools over a five-year period:

Government Schools
Total Number of Pupils at 1 August

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|-------------------|--------|--------|--------|--------|--------|
| Boys | 36,249 | 36,879 | 37,306 | 37,742 | 38,592 |
| Girls | 33,384 | 33,764 | 34,309 | 34,719 | 35,673 |
| Total | 69,633 | 70,643 | 71,615 | 72,461 | 74,265 |

Finance

The following table gives a summary of government expenditure on education over a five-year period. The principal source of the money expended from State Trust Funds is the Commonwealth Government, the State acting as agent for the Commonwealth.

Expenditure on Education from Consolidated Revenue, Loan Fund and Trust Funds (\$'000)

| Details of Expenditure | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| From Consolidated Revenue— Primary, Secondary and Technical Education— | | | | | |
| Education Department .. | 12,543 | 14,054 | 15,566 | 16,800 | 18,826 |
| Other (Schools Board, Pre-Schools, etc.) .. | (a) 135 | 54 | 56 | 56 | 63 |
| Adult Education .. | 102 | 111 | 119 | 127 | 122 |
| University of Tasmania .. | 895 | 924 | 1,360 | 1,332 | 1,438 |
| Other Educational Grants .. | 1 | 1 | 1 | 1 | 1 |
| Total | 13,676 | 15,145 | 17,102 | 18,316 | 20,450 |
| From Loan Fund— School Buildings, University and Adult Education .. | 4,047 | 4,759 | 4,456 | 4,655 | 4,901 |
| From Trust Funds | 858 | 1,005 | 1,551 | 2,164 | 1,715 |

(a) Includes expenditure from Commonwealth Employment Stimulation Grant for repairs and maintenance.

The Commonwealth Government has made some contributions to the State loan and trust funds specified in the previous table. The Commonwealth's role in education is described later in this chapter under the heading, 'Commonwealth Department of Education and Science.'

The following table gives a dissection of expenditure from State Consolidated Revenue on education:

Expenditure on the Education Department (a) from Consolidated Revenue Fund 1966-67

| Particulars | \$'000 |
|---|--------|
| Salaries, Wages and Allowances for Administrative Staff | 634 |
| Salaries, Wages and Allowances for Teaching Staff | 14,308 |
| Payroll Tax | 373 |
| Maintenance of Schools and Other Properties | 372 |
| Lighting, Heating, Water and Sanitary Charges | 365 |
| Conveyance and Fares of Scholars | 1,573 |
| Materials and Equipment (including Schools Library Service) | 600 |
| Other (including Office Requisites, Rents, Rates, Travelling Expenses, Furniture, Allowances, Free Supplies to Scholars, etc.) | 601 |
| Total Expenditure | 18,826 |

(a) Includes all Technical Education.

Age of Pupils in Each Class

The following table summarises the system of government schooling in Tasmania, showing the average ages of pupils in each class according to the type of school available, and the final examinations which determine the types of course followed:

Government Schools**Average Age of Pupils, Primary and Secondary, in each Class and Certificates Issued**

| Primary Schools (including Primary Classes of District and Area Schools) | | | Secondary Schools (including High Schools and Secondary Classes of District and Area Schools) | | | |
|---|--------------------|--------|--|--------------------|--------|--------------------|
| Grade | Mean Age at 1.8.67 | | Class | Mean Age at 1.8.67 | | Certificate Issued |
| | Years | Months | | Years | Months | |
| Pre-School .. | 4 | 11 | 1 .. | 12 | 10 | .. |
| Kindergarten | 5 | 7 | 2 .. | 13 | 11 | .. |
| 1 .. | 6 | 7 | 3 .. | 14 | 11 | (a) Sec. Schools |
| 2 .. | 7 | 8 | 4 .. | 15 | 11 | (a) Schools Board |
| 3 .. | 8 | 8 | 5 (b) | 16 | 9 | Matriculation |
| 4 .. | 9 | 9 | 6 (b) | 17 | 9 | |
| 5 .. | 10 | 9 | | | | |
| 6 .. | 11 | 9 | | | | |

(a) The Secondary Schools Certificate marks the final stage of a self-contained course, and is not a part of the Schools Board Certificate course.

(b) Classes 5 and 6 indicate pupils in their first or second year at matriculation level.

Number of Primary Schools

The following table shows the number of schools providing primary and pre-school education in the State.

Number of Government Schools Providing Primary Education at 1 August

| Type of School | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|------|------|------|------|------|
| Pre-School | 52 | 56 | 56 | 56 | 59 |
| Primary School | 138 | 139 | 141 | 138 | 137 |
| Area (a) | 36 | 35 | 35 | 35 | 35 |
| District (a) | 5 | 7 | 6 | 6 | 7 |
| Primary with Secondary Classes (a) | 17 | 15 | 14 | 14 | 13 |
| Special School | 15 | 14 | 14 | 15 | 16 |

(a) These figures are also included in a later table on numbers of secondary schools.

Pre-School Centres

Pre-schools are established on the initiative of groups of parents, the Department providing the cost of the building but eventually recovering half its outlay from the parents. The Department trains and pays the teachers who control their own programmes; it subsidises or meets most other costs. Pre-school teachers were originally sent for training at Kew in Victoria but, from 1966, courses have been provided at the Hobart Teachers College.

Children from $3\frac{1}{2}$ to 6 years may attend pre-schools which are considered valuable in personality development and therefore encouraged by the Department. The following table shows the number of teachers and enrolled pupils at the centres:

Pre-Schools—Teachers and Pupils at 1 August

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|----------------------------|-------|-------|-------|-------|-------|
| Teachers (Full-time) | 49 | 54 | 55 | 51 | 57 |
| Teachers (Part-time) | 10 | 7 | | 11 | 12 |
| Pupils | 2,279 | 2,424 | 2,431 | 2,447 | 2,632 |

The high pupil-teacher ratio in the previous table is reduced in practice by attendance of pupils in half-days or on occasional days. Classes do not exceed 25 pupils.

State Primary Schools

State Infants Schools and Infants Classes: Infants schools, and infants classes in all primary schools, cater for children for one, two or three years, depending on facilities available, age at entry, and pre-school experience. Kindergarten classes are provided at some primary schools for children below the age of six who may not have been able to attend pre-school centres.

The following table shows the number of boys and girls in kindergartens and infants classes:

Enrolments in Government Infants Schools and Infants Grades at 1 August 1967

| Pupils | Kindergarten | Grade 1 | Grade 2 | Total |
|-------------|--------------|---------|---------|--------|
| Boys | 1,164 | 5,011 | 3,714 | 9,889 |
| Girls | 1,116 | 4,458 | 3,584 | 9,158 |
| Total.. | 2,280 | 9,469 | 7,298 | 19,047 |

Primary Classes: The majority of government primary schools have six grades only, without kindergartens attached; a few have secondary grades as well. In general, parents may select the school they prefer for their children without restriction. In some areas, zoning directs children to attend a particular primary school.

Thirty-five area schools and seven district schools have primary grades, and draw many pupils from outlying localities previously served by one or two-teacher schools. Free transport has made this possible and has led to a reduction in the total number of primary schools.

Primary Curriculum: The primary school curriculum has undergone considerable changes in recent years, both in teaching methods and subject matter. The subjects are English (including reading, spelling, oral and written work), history, geography, arithmetic, science, art, music, handiwork, religious and moral education, and health and physical education.

Pupil Grouping: Promotion within the schools is generally by age at the beginning of the school year, with accelerated progress or repetition of classes at the headmaster's discretion; grouping is by ability, where numbers allow, with each child being able to work with his equals in each subject, regardless of chronological age. *Differential teaching* adapts the school programme to meet the widely varying needs and abilities of pupils. The skill subjects of reading, writing, spelling and arithmetic are particularly suited to this method of teaching, testing and grading. One school has experimented widely with *non-grading*, a method of organisation which allows pupils in certain subjects to work at their own level of competence. A few other schools have adopted this organisation in one or two subjects only.

Primary Pupils: The following table shows the age and number of pupils receiving primary education in Tasmanian government schools:

Age and Number of Pupils Receiving Government Primary Education (a) at 1 August

| Age Last Birthday (Years) | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------------------------|--------|--------|--------|--------|--------|
| Under 7 | 12,580 | 12,945 | 13,256 | 12,984 | 13,282 |
| 7 | 6,780 | 6,626 | 6,901 | 7,081 | 7,153 |
| 8 | 6,595 | 6,975 | 6,744 | 6,926 | 7,060 |
| 9 | 6,352 | 6,531 | 6,766 | 6,568 | 6,946 |
| 10 | 6,491 | 6,326 | 6,515 | 6,874 | 6,682 |
| 11 | 5,902 | 5,962 | 5,912 | 5,953 | 6,340 |
| 12 | 2,252 | 2,266 | 2,105 | 2,084 | 2,124 |
| 13 | 312 | 257 | 271 | 266 | 219 |
| 14 | 32 | 32 | 22 | 22 | 19 |
| 15 and Over | 4 | 11 | 9 | 1 | 2 |
| Total—Boys | 24,536 | 24,838 | 25,063 | 25,295 | 25,827 |
| Girls | 22,764 | 23,093 | 23,438 | 23,464 | 24,000 |
| Pupils.. .. | 47,300 | 47,931 | 48,501 | 48,759 | 49,827 |

(a) Includes pupils in pre-schools, infants schools and infants grades.

Special Schools and Special Classes

The Department has special schools, and also special classes in ordinary schools, for children who are physically handicapped, mentally retarded, or otherwise unable to profit from ordinary class teaching. Instruction varies according to the handicap; where it is physical, the main need is to maintain normal or near-normal individual programmes. Many pupils eventually can be transferred to ordinary schools into the grade appropriate for their age.

Schools and classes for slow learners and mentally retarded children follow the curricula for pre-schools and primary schools, and no attempt is made to reach examination standards. The teaching of activities and basic skills is the main concern in these classes, which are to be found in some primary and high schools.

State Secondary Schools

The following table shows the number of government secondary schools in the State:

Number of Government Schools Providing Secondary Education at 1 August

| Type of School | 1963 | 1964 | 1965 | 1966 | 1967 |
|--------------------------------|------|------|------|------|------|
| Primary with Secondary Classes | | | | | |
| (a) | 17 | 15 | 14 | 14 | 13 |
| Area (a) | 36 | 35 | 35 | 35 | 35 |
| District (a) | 5 | 7 | 6 | 6 | 7 |
| High (b) | 25 | 27 | 30 | 30 | 30 |

(a) These figures are included in a previous table on numbers of primary schools.

(b) Includes matriculation colleges.

Almost all children attend secondary classes, starting at an age varying from $11\frac{1}{2}$ to 13 years. If a choice has to be made between a high and an area school, a transfer committee considers the matter, taking note of performance in grade VI. High schools are non-selective, comprehensive and, with two exceptions, co-educational.

The differences between the types of secondary school are mainly due to the level of the final examination or certificate. The levels have been: (i) the Secondary Schools Certificate (three-year course); (ii) the Schools Board Certificate (four-year course); (iii) Matriculation (five or six year course).

Far-reaching proposals for the re-organisation of secondary examinations and certificates were made by the Schools Board and substantially endorsed by Dr W. C. Radford (Director, Australian Council for Educational Research). The old system will operate in 1968 for the last time and the new system will start in 1969.

The essence of the new system is (i) all examinations and certification to come under a single authority, a newly constituted Schools Board of Tasmania; (ii) two certificates only to be issued; (iii) the new certificates to record achievement in *subjects* and not to be *group* certificates as in the old system. The new certificates are:

The School Certificate: awarded in subjects for three and four year courses; basis of award to be internal assessment and recommendation by schools.

The Higher School Certificate: awarded in subjects studied in fifth or sixth secondary year; basis of award to be external examination conducted by the Board (not the University as for matriculation in the past). The University is still free to determine what constitutes qualification for university entrance and can nominate the subjects and the levels of achievement at the Higher School Certificate examination necessary for entry; the scope of the examination can also be enlarged to cover subjects not designed primarily for purposes of university entrance.

The following table shows the age and number of students in Tasmanian government secondary schools:

Age and Number of Pupils Receiving Government Secondary Education at 1 August

| Age Last Birthday (Years) | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------------------------|--------|--------|--------|--------|--------|
| 11 | 308 | 387 | 329 | 359 | 433 |
| 12 | 3,326 | 3,561 | 3,868 | 3,853 | 4,119 |
| 13 | 5,510 | 5,442 | 5,702 | 5,718 | 5,753 |
| 14 | 5,444 | 5,748 | 5,786 | 5,927 | 6,111 |
| 15 | 4,330 | 4,236 | 4,213 | 4,336 | 4,586 |
| 16 | 1,969 | 1,918 | 1,734 | 1,852 | 1,744 |
| 17 | 461 | 659 | 580 | 702 | 681 |
| 18 and Over | 122 | 110 | 166 | 215 | 232 |
| Total—Boys | 11,277 | 11,651 | 11,812 | 11,995 | 12,294 |
| Girls | 10,193 | 10,410 | 10,566 | 10,967 | 11,365 |
| Pupils | 21,470 | 22,061 | 22,378 | 22,962 | 23,659 |

The next table shows the number of secondary pupils by sex and class in all government schools and classes:

Secondary Pupils in Government Schools by Classes at 1 August 1967

| Pupils | Post-Primary Class | | | | | | Total |
|----------|--------------------|-------|-------|-------|-----|-----|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| Boys .. | 3,445 | 3,234 | 3,069 | 1,696 | 474 | 376 | 12,294 |
| Girls .. | 3,213 | 3,133 | 2,897 | 1,491 | 418 | 213 | 11,365 |
| Pupils | 6,658 | 6,367 | 5,966 | 3,187 | 892 | 589 | 23,659 |

Area Schools

These cater for children following mainly non-academic courses leading to preliminary awards in subjects of the School Certificate (from 1969) after three years by internal examination. There is a bias towards agriculture, technical subjects and home arts, the aim being to provide training for the environment in which the child is likely to find himself on leaving school. The English course is framed to help children write and speak fluently and mathematics is concerned largely with practical examples. There has been an amount of experimental work in these schools, especially in programmed learning, mainly in mathematics.

Subjects for the School Certificate (from 1969) are available to pupils in some primary schools with secondary classes, in all area and district schools, and in all high schools.

Government Matriculation Colleges

In 1965, the Hobart High School became the Hobart Matriculation College, no junior students having been enrolled after 1960. The Launceston High School reached this stage in 1967. At these colleges, students are exclusively concerned with matriculation subjects, undertaken as a one-year or two-year course. (*From 1969, the matriculation group certificate will be replaced by the Higher School Certificate awarded in individual subjects.*) A third college began in the Hobart area in 1968, but the elimination of junior students will not be completed until 1970. Students may also matriculate from high schools at Burnie and Devonport. Subsidised transport and hostels assist many students attempting matriculation.

The advantage claimed for matriculation colleges is that they concentrate, in the one centre, teachers who are specialists in this field; further, the students benefit to the degree that the colleges are an intermediate step between the disciplined high school and the university.

Correspondence School

This school offers a wide variety of courses at the primary and post-primary levels, and provides instruction for adults as well as children. Valuable assistance is given to pupils in secondary classes of some primary schools and area schools to assist them achieve School Certificate (from 1969) standard.

The courses available include all primary and most secondary subjects; matriculation mathematics and history at the advanced and ordinary levels; advanced English for junior temporary assistant teachers; English for New Australians; and courses for adults with special problems such as illiteracy.

Teachers and Teacher Training

There is a variety of courses available to trainee teachers in this State. The University of Tasmania awards the Diploma of Education after one year of a post-graduate course, or the Certificate of Education after a two year undergraduate course. The Hobart and Launceston teachers colleges provide two-year and three-year courses for primary and infants teachers. A two-year course in physical education and a three-year course in music are provided at the University; and courses are available at the Launceston Teachers College (home arts), the Hobart School of Art, and at the Victorian School of Speech Therapy, the Hobart Technical College, etc. Beginning with 1965 entrants, an increasing proportion of teachers college students are following a three-year course; by 1970, all courses are to be of three years' duration.

The following table shows the number of teachers in Tasmanian government schools:

Number of Government Teachers at 1 August 1967 (a)

| Type of School | Full-time | | | Part-time | | |
|--|-----------|---------|---------|-----------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| Pre-School | .. | 57 | 57 | .. | 12 | 12 |
| Special | 17 | 67 | 84 | 2 | 4 | 6 |
| Primary | 247 | 1,040 | 1,287 | 1 | 149 | 150 |
| Primary with Secondary Classes | 16 | 33 | 49 | 3 | 16 | 19 |
| Area | 151 | 281 | 432 | 4 | 46 | 50 |
| District | 59 | 73 | 132 | .. | 4 | 4 |
| High (b) | 730 | 534 | 1,264 | 20 | 55 | 75 |
| Teachers Colleges | 24 | 22 | 46 | 19 | 8 | 27 |
| Technical Colleges | 136 | 22 | 158 | 486 | 94 | 580 |
| School of Art | 8 | 2 | 10 | 11 | 7 | 18 |
| School of Music | 5 | .. | 5 | 7 | 9 | 16 |
| Total (a) | 1,393 | 2,131 | 3,524 | 553 | 404 | 957 |

(a) Excludes teachers in non-teaching positions (e.g. curriculum branch staff, guidance officers, and speech education, music and teaching aids centres, etc.).

(b) Includes matriculation colleges.

In the primary schools in 1967, 80 per cent of the teachers were women, and the available men usually taught grades V and VI. All subjects are taught by each teacher in these schools, but itinerant teachers, when available, take physical education, music and speech classes. In the post-primary schools, most teachers are specialists attached to subject departments within each school. In area and district schools, one teacher may take several subjects, and agriculture, cooking and technical subjects are handled by resident or itinerant specialists as available.

The following table shows the number of teachers and teachers-in-training in Tasmania:

Full-time Teaching Staff in Government Schools (a) and Teachers-in-Training At 1 August

| Type of Teacher | 1963 | 1964 | 1965 | 1966 | 1967 |
|-------------------------|-------|-------|-------|-------|-------|
| Head Teachers— | | | | | |
| Males | 226 | 224 | 238 | 236 | 240 |
| Females | 16 | 17 | 13 | 7 | 9 |
| Other Teachers— | | | | | |
| Males | 872 | 974 | 1,056 | 1,063 | 1,055 |
| Females | 1,846 | 1,885 | 1,942 | 1,991 | 2,115 |
| Monitors— | | | | | |
| Females | 58 | 23 | 17 | 10 | 11 |
| Total Teachers— | | | | | |
| Males (a) | 1,098 | 1,198 | 1,294 | 1,299 | 1,295 |
| Females (a) | 1,920 | 1,925 | 1,972 | 2,008 | 2,135 |
| Probationary Students— | | | | | |
| Males | 71 | 67 | 21 | (b) | (b) |
| Females | 107 | 96 | 26 | (b) | (b) |
| Teachers-in-Training— | | | | | |
| Males | 221 | 225 | 258 | 299 | 321 |
| Females | 450 | 529 | 600 | 614 | 679 |

(a) Includes teachers in non-teaching positions (e.g. curriculum branch staff, guidance officers, etc.) but excludes those engaged in teacher training and technical education, and part-time teachers.

(b) The appointment of probationary students ceased in 1965.

Teachers Colleges, etc.: The institutions where teachers-in-training are studying are shown in the next table:

Teachers-in-Training at 1 August

| Institution Attended | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|------|------|------|------|------|
| MALES | | | | | |
| Hobart Teachers College | 16 | 22 | 32 | 30 | 23 |
| Launceston Teachers College | 32 | 15 | 9 | 23 | 28 |
| University of Tasmania | 151 | 173 | 195 | 227 | 244 |
| School of Art | .. | 6 | 11 | 12 | 13 |
| Tasmanian Conservatorium of Music | .. | .. | 2 | 5 | 5 |
| Other Institutions | 22 | 9 | 9 | 2 | 8 |
| Total | 221 | 225 | 258 | 299 | 321 |
| FEMALES | | | | | |
| Hobart Teachers College | 71 | 137 | 153 | 133 | 154 |
| Launceston Teachers College | 189 | 164 | 150 | 159 | 170 |
| University of Tasmania | 151 | 180 | 233 | 264 | 308 |
| School of Art | .. | 28 | 28 | 21 | 16 |
| Tasmanian Conservatorium of Music | .. | .. | 11 | 14 | 17 |
| Other Institutions | 39 | 20 | 25 | 23 | 14 |
| Total | 450 | 529 | 600 | 614 | 679 |

Independent (or Non-Government) Schools

Introduction

Non-government schools have long played a valuable part in Tasmanian education. Policies are framed by headmasters in conjunction with their senior staffs and with the approval of their governing bodies or church. There can be freedom to experiment and to develop breadth in courses if desired, and this is shown by the number of subjects available to students.

Registration

Non-government schools and teachers have to conform with the regulations of the *Teachers' and Schools' Registration Board*. This Board consists of nine members who hear and determine all applications for registration and keep a record of all teachers and schools not administered by the Education Department. Every school is graded and teachers are registered in one or more classifications or as special subject teachers. 'Provisional' teachers are those gaining qualifications so they can be registered. The Board may prescribe the mode of classifying teachers, the course of study and training required, the examinations to be passed, and the recognition of overseas qualifications. To secure registration, schools must provide for proper access, drainage, light, ventilation and sanitary conveniences, and inspections may be made by officers appointed by the Board. A daily register of attendance has to be kept.

State Assistance to Non-Government Schools and Pupils

The *Education Act 1932* was amended in 1967 to provide for direct payments to non-government schools, the amount being calculated on a capitation basis; the subsidies provided are \$10 per annum per primary pupil and \$20 per annum per secondary pupil. The principle of giving no aid to non-government schools was first incorporated in the *Education Act 1885* and persisted for 82 years. The 1968-69 appropriation was \$209,000.

Apart from these subsidies, benefits include matriculation allowances; secondary scholarships; free or subsidised transport; use of the facilities of the Department's Curriculum, Teaching Aids, Speech Education and Guidance Branches; attendance at trade and domestic science classes if room is available, and attendance by teachers at Departmental schools of method. Equipment can be purchased at favourable rates through the Supply and Tender Department, and the Schools Library Service can be used.

Enrolment at Independent Schools

Most non-government school pupils are in schools controlled by religious denominations as the next table shows:

**Non-Government Schools
Number of Pupils and Number of Schools at 1 August**

| Particulars | Church of England | Meth-odist | Pres-byterian | Catholic | Seventh Day Adventist | Friends (Quaker) | Un-denom-inational | All Schools |
|-----------------------|-------------------|------------|---------------|----------|-----------------------|------------------|--------------------|-------------|
| No. of Pupils— | | | | | | | | |
| 1963 .. Boys | 940 | 3 | 274 | 4,779 | 91 | 445 | 119 | 6,651 |
| Girls | 881 | 346 | 331 | 5,237 | 75 | 457 | 111 | 7,438 |
| 1964 .. Boys | 944 | 11 | 268 | 4,933 | 86 | 481 | 103 | 6,826 |
| Girls | 883 | 353 | 323 | 5,364 | 74 | 478 | 84 | 7,559 |
| 1965 .. Boys | 980 | 7 | 303 | 5,040 | 74 | 490 | 149 | 7,043 |
| Girls | 863 | 336 | 324 | 5,465 | 70 | 482 | 105 | 7,645 |
| 1966 .. Boys | 1,004 | 10 | 273 | 5,063 | 63 | 520 | 150 | 7,083 |
| Girls | 839 | 323 | 314 | 5,529 | 65 | 474 | 116 | 7,660 |
| 1967 .. Boys | 1,050 | 6 | 314 | 5,105 | 70 | 536 | 155 | 7,236 |
| Girls | 840 | 312 | 324 | 5,578 | 55 | 449 | 119 | 7,677 |
| No. of Schools | | | | | | | | |
| 1967 .. | 4 | 1 | 2 | 51 | 3 | 1 | 3 | 65 |

Of the 35 schools in 1967 which catered for secondary pupils, 18 had matriculation classes, but only one was co-educational. They have a tradition of comprehensive type schooling, but increased applications for entry have imposed some element of selectivity such as an entrance examination. Preference is usually given to children of past pupils or brothers or sisters of current pupils.

Most independent school pupils are to be found in primary classes, and most of these are in Catholic schools. The following table shows the ages and numbers of all pupils in non-government primary classes and sub-primary classes:

Age and Number of Pupils Receiving Non-Government Primary Education at 1 August

| Age Last Birthday (Years) | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------------------------|-------|-------|-------|-------|-------|
| Under 7 | 1,937 | 1,872 | 1,962 | 1,905 | 2,182 |
| 7 | 1,142 | 1,255 | 1,246 | 1,191 | 1,229 |
| 8 | 1,098 | 1,106 | 1,180 | 1,189 | 1,182 |
| 9 | 1,095 | 1,155 | 1,212 | 1,202 | 1,172 |
| 10 | 1,154 | 1,110 | 1,115 | 1,214 | 1,214 |
| 11 | 1,074 | 1,140 | 1,142 | 1,104 | 1,176 |
| 12 | 683 | 639 | 567 | 556 | 399 |
| 13 | 209 | 219 | 177 | 210 | 60 |
| 14 | 41 | 48 | 30 | 37 | 13 |
| 15 and Over | 11 | 4 | 3 | 13 | 6 |
| Total—Boys | 4,088 | 4,131 | 4,232 | 4,159 | 4,194 |
| Girls | 4,356 | 4,417 | 4,402 | 4,462 | 4,439 |
| Pupils.. .. | 8,444 | 8,548 | 8,634 | 8,621 | 8,633 |

The following table shows the age of pupils in the independent schools at secondary level:

**Age and Number of Pupils Receiving
Non-Government Secondary Education at 1 August**

| Age Last Birthday (Years) | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------------------------|-------|-------|-------|-------|-------|
| 11 | 141 | 78 | 100 | 95 | 129 |
| 12 | 667 | 741 | 804 | 887 | 915 |
| 13 | 1,166 | 1,143 | 1,226 | 1,253 | 1,306 |
| 14 | 1,224 | 1,334 | 1,273 | 1,317 | 1,385 |
| 15 | 1,163 | 1,115 | 1,280 | 1,196 | 1,216 |
| 16 | 806 | 862 | 838 | 871 | 835 |
| 17 | 355 | 404 | 406 | 394 | 404 |
| 18 and Over | 123 | 160 | 127 | 109 | 90 |
| Total—Boys | 2,563 | 2,695 | 2,811 | 2,924 | 3,042 |
| Girls | 3,082 | 3,142 | 3,243 | 3,198 | 3,238 |
| Pupils.. .. | 5,645 | 5,837 | 6,054 | 6,122 | 6,280 |

The following table shows the number of secondary pupils by sex and class in all non-government schools:

Secondary Pupils in Non-Government Schools by Classes at 1 August 1967

| Pupils | Post-Primary Class | | | | | | Total |
|----------|--------------------|-------|-------|-------|-----|-----|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| Boys .. | 696 | 645 | 655 | 581 | 278 | 187 | 3,042 |
| Girls .. | 754 | 744 | 743 | 605 | 274 | 118 | 3,238 |
| Pupils | 1,450 | 1,389 | 1,398 | 1,186 | 552 | 305 | 6,280 |

Other Education Matters

Various functions of the Education Department are described in the following section; some are applicable to both government and non-government schools.

Equipment: The Department maintains an active interest in the development of teaching methods and of teaching aids. The Teaching Aids Centre gives assistance to schools by the provision of a library of 16 mm films, film strips and coloured slides. Records are distributed on loan, and are mainly used for music appreciation, poetry and languages. Printed aids, in the form mainly of charts and booklets, are provided (e.g. charts for cursive writing and booklets for the Cuisenaire system). Audio-visual aids (tape recorders, film projectors, centralised radio systems, strip and sound projectors, television receivers, etc.) are bought by the Centre and re-sold to the schools with a \$ for \$ subsidy given by the Department. Repair and maintenance of this equipment is done free of charge by the Centre. Specialised electronic equipment has been developed and produced, e.g. auditory training equipment for the schools for the deaf. A talks studio with recording equipment and tape duplicating facilities operates to prepare language laboratory programmes and the recording of schools broadcasts.

Libraries: These have been built up in most schools, with Departmental subsidies matching local funds up to levels determined by the size of the school.

The Department's Schools Library Service, with its twenty thousand volumes, supplements the individual school libraries and circulates a wide variety of reference books on all topics.

Television and Radio Programmes: Receivers are found in all schools; lessons are frequently co-ordinated with the scheduled programmes arranged by liaison between the Department and the Australian Broadcasting Commission.

Road Safety Officers: Transport Commission officers visit the schools regularly to give lectures and practical demonstrations. Special efforts have been made to increase the safety of child cyclists, and warnings have also been given on firearms, explosives, dangerous drugs, etc. Driver education courses are given in two schools, a type of training likely to be extended to others.

Parents and Friends Associations: While a major function of these bodies is fund-raising for the provision of subsidised equipment and library books, they also act as a valuable forum for discussion on education.

Migrant Education: This is arranged by the Department at certain schools or by combined radio-correspondence lessons, the aim being the teaching of English. The cost of migrant education is reimbursed by the Commonwealth Government.

The School Milk Scheme: Free milk is available to all children under 13 years attending government and non-government primary and infants schools, pre-school centres, creches, child-minding centres, and orphanages. One-third of a pint of milk is supplied daily, and the cost is borne by the Commonwealth. In 1967, the cost of milk supplied was \$453,000.

Bursaries: A system of bursaries exists to assist pupils in post-primary government and non-government schools. Junior bursaries, which may be held for four years, are awarded to pupils under the age of 13 who live in areas where the required type of secondary education is not available. Senior bursaries are awarded on the results of a competitive examination for pupils under 17.

There were 133 junior and 18 senior bursaries held during 1967, at a cost to the Bursaries Board of \$16,553. Sixteen junior bursaries were awarded for 1968. The Bursaries Board fund is made up of moneys from the Government and private donations.

Matriculation allowances are also paid to all pupils in fifth and sixth years of post-primary education if parents' income does not exceed \$50 per week (subject to variation if there are additional children).

Technical Education

Government technical colleges operate at Hobart, Launceston, Devonport and Burnie and provide professional, technician and trade courses. Part-time students attend classes, providing largely trade work for apprentices, at Queenstown, Rosebery, Smithton, Ulverstone and Huonville. Students are charged fees but apprentices receive free training. A Tasmanian College of Advanced Education is to be built at Mt Nelson in Hobart, the 170 acre site having 130 acres suitable for the erection of the proposed buildings. The construction of the first stage commenced in September 1968.

Included in the tables that follow are the School of Art, established in 1963, and the Conservatorium of Music, established in 1964. The heading 'technical' therefore has very wide application and includes some courses which are cultural and aesthetic rather than purely vocational.

Courses

Professional courses provide the theoretical background for the award of a diploma issued by the Education Department. The following table shows the professional courses available, enrolments, and the number who completed courses:

Technical Colleges
Number of Students Taking Diploma and Post-Diploma Courses

| Type of Course | 1965 | | 1966 | | 1967 | |
|------------------------|--------------------------|---------------------|--------------------------|---------------------|--------------------------|---------------------|
| | Total Enrolled (a) | Completed Course | Total Enrolled (a) | Completed Course | Total Enrolled (a) | Completed Course |
| Accountancy .. | 539 | 11 | 467 | 2 | 356 | 3 |
| Architecture .. | 61 | 3 | 58 | 6 | 59 | 3 |
| Art .. | 121 | 21 | 165 | 31 | 142 | 13 |
| Bankers Institute .. | 1 | .. | 22 | .. | 16 | .. |
| Building .. | 1 | .. | .. | .. | .. | .. |
| Chemistry .. | 61 | 2 | 75 | 3 | 72 | 8 |
| Engineering— | | | | | | |
| Civil .. | 83 | 10 | 80 | 12 | 73 | 5 |
| Electrical .. | 95 | 20 | 78 | 13 | 60 | 11 |
| Mechanical .. | 50 | 6 | 50 | 6 | 48 | 1 |
| Electronics .. | 6 | 3 | .. | .. | .. | .. |
| Insurance Institute .. | 20 | 2 | 17 | .. | 6 | .. |
| Library Association .. | 43 | 9 | 41 | 2 | 48 | 6 |
| Management .. | 96 | 2 | 76 | 12 | 29 | 5 |
| Medical Laboratory | | | | | | |
| Technician .. | .. | .. | .. | .. | 22 | .. |
| Metallurgy .. | 14 | 1 | 16 | 1 | 23 | 3 |
| Music .. | 13 | .. | 27 | 4 | 41 | 8 |
| Pharmacy (b) .. | 17 | 4 | 22 | 3 | 35 | 3 |
| Radiography .. | .. | .. | .. | .. | 12 | 4 |
| Quantity Surveying .. | 6 | 4 | 4 | 1 | 5 | 1 |
| Technical Teaching .. | 2 | .. | .. | .. | 5 | .. |
| Town Planning .. | 12 | 9 | 10 | .. | 9 | .. |
| Valuation .. | 23 | 5 | 29 | 5 | 25 | 3 |
| Total .. | 1,264 | 112 | 1,237 | 101 | 1,086 | 77 |

(a) Aggregate enrolment for year.

(b) See next paragraph for definition.

Pharmacy: In the above table, the figures for 1965 and following years are incomplete since the course now demands a preliminary year at the University and a final year of practical training. On this revised basis, course enrolments were: 30 (1965); 57 (1966); and 63 (1967); in 1967, those completing the whole course numbered seven.

Technician Courses: These do not aim to reach the standard of the professional courses, nor are they directed towards acquiring skill in a trade. They are intermediate between the two and are designed to meet the needs of industry in which there is a growing demand for technicians. On successful completion of a course, a certificate is awarded by the Education Department. Commerce, draughtsmanship, health inspection, hotel management, shorthand-typing, and merchandising are examples of the large number of courses available. They are also called *certificate courses*.

Trade Courses: These are designed to complement trade experience and to lead the apprentice to skill in his craft. From 1965, apprentices have been required to attend one full day per week for three years; this has eliminated many evening classes. A certificate of trade proficiency is issued by the Department and courses are available in most trades. Post-trade or journeymen courses are also provided.

The following table shows the number of students who received certificates on successful completion of technician or trade courses, and of preparatory and qualifying courses:

Number of Technician and Trade Students who Completed Courses

| Course | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|------|------|-------|------|------|
| Technician and Trade Certificates | 745 | 768 | 1,022 | 978 | 913 |
| Preparatory and Qualifying Examinations (a) | 303 | 285 | 337 | 482 | 452 |

(a) These courses prepare students for Schools Board, Matriculation and public service entry examinations.

Technical Correspondence Courses: These are administered through the Hobart Technical College and are given when attendance at technical classes is not practicable. In 1967, 230 apprentices and others made use of these courses.

Technical Education—Miscellaneous

Fees: In 1968, fees were approximately \$60 per year for professional part-time courses, \$120 for full-time courses and \$24 for certificate and trade courses. Apprentices receive training without charge.

Enrolments: In 1967, part-time enrolments comprised 94 per cent of the total technical college enrolment of 8,200. The full-time students attended art, pharmacy, technical teaching or day commercial classes. Fifty four per cent of the total enrolment was at the Hobart College and 26 per cent at the Launceston College. Thirteen per cent were attempting diploma or post-diploma courses; 32 per cent certificate or post-certificate courses; 39 per cent trade or post-trade courses; and 16 per cent miscellaneous subjects. Seventy one per cent were males and 29 per cent females.

College Councils: These are appointed locally and represent local trades and industries, professions, and municipal councils. They supervise and act as advisory bodies.

Examinations: These are conducted by the Education Department in November each year and restricted supplementary examinations are held in December and February. Papers are set and marked, or assessments carried out, by outside examiners. In 1967, first-year apprentice examinations were conducted internally; this will be extended to second-year level in 1968.

Technical Teachers, Students and Expenditure

The following table shows the numbers of schools, teachers and students engaged in senior technical education, and the yearly expenditure (the School of Art is included from 1963, and the Conservatorium of Music from 1964):

Technical Education—Teachers, Students and Expenditure

| Particulars | r 1963 | r 1964 | r 1965 | r 1966 | 1967 |
|----------------------------------|--------|--------|--------|--------|-------|
| Schools, Colleges, etc. .. (no.) | 11 | 11 | 12 | 11 | 10 |
| Teachers—Full-time .. (no.) | 104 | 110 | 146 | 154 | 173 |
| Part-time .. (no.) | 438 | 498 | 442 | 591 | 614 |
| Students—Aggregate (a) (no.) | 7,587 | 7,692 | 7,916 | 7,962 | 8,200 |
| Expenditure (b) .. (\$'000) | 681 | 717 | 797 | 954 | 1,044 |

(a) Gross number enrolled during the year.

(b) Excludes capital expenditure on new buildings, etc.

r Revised.

Examinations (pre-1969)

This section deals with certificates and examinations affecting pupils of government and non-government secondary schools. The heading 'pre-1969' has been used because a new system will come into operation in 1969.

The Schools Board Certificate

This is awarded after a four-year secondary academic course. Subjects may be taken at various levels and a wide choice is available, to cater for different levels of ability or interest. Compulsory basic subjects are complemented by optional subjects to permit concentration on interests, without undue specialisation at this stage. At present, examinations may be internal (in accredited schools) or external (set by the Schools Board of Tasmania). The Certificate may be issued endorsed 'A' or 'B', or unendorsed. The 'A' certificate requires a pass in English among other subjects; the 'B' certificate is less restricted in specification of required subjects.

The Matriculation Examination

This is taken at the end of the fifth or sixth secondary year, individual subjects being attempted at the advanced or ordinary level. Examinations are conducted by the University of Tasmania and are held in December. A candidate may matriculate at the one examination or, if he chooses, at two examinations held in consecutive years. Supplementary examinations are also held in February. At least three subjects at advanced level and two at ordinary level, in certain groupings, are required. Study of subjects outside his specific specialist field of interest is compulsory for a candidate.

Although it is a five-year secondary course, students are encouraged to aim at matriculation after six years' study, and to regard the fifth year examination either as a trial effort or as the first stage of the complete course.

Examination Results

The following table shows the number of students attempting the Schools Board and Matriculation examinations, and the percentages who passed:

**Schools Board and Matriculation Examination Results
Government and Non-Government Schools**

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|-------|-------|-------|-------|-------|
| Schools Board Certificate— | | | | | |
| Total Examined | 3,982 | 4,182 | 4,433 | 4,713 | 4,885 |
| Attempted Certificate | 3,185 | 3,368 | 3,478 | 3,618 | 3,749 |
| Gained Certificate (a) | 1,642 | 1,800 | 1,830 | 2,153 | 2,329 |
| Pass Rate (b) (%) | 51.55 | 53.44 | 52.62 | 59.51 | 62.12 |
| Matriculation Examination— | | | | | |
| Secondary Schools Students— | | | | | |
| Total Examined | 1,292 | 1,561 | 1,804 | 2,021 | 2,228 |
| Attempted Matriculation | 837 | 968 | 1,008 | 1,163 | 1,234 |
| Matriculated | 462 | 563 | 551 | 661 | 684 |
| Pass Rate (b) (%) | 55.20 | 58.16 | 54.66 | 56.83 | 55.43 |
| Non-Secondary School Students Matriculated | | | | | |
| | 28 | 44 | 18 | 26 | 23 |

(a) Refers to Schools Board Certificate endorsed 'A'.

(b) Successful proportion of those attempting to obtain the full qualification.

Examinations (from 1969)

From 1969, a new examination system will operate. The certificates are:

- (i) *The School Certificate*, awarded in subjects for three and four year courses; basis of award to be internal assessment and recommendation by schools;

(ii) *The Higher School Certificate*, awarded in subjects studied in fifth or sixth secondary year; basis of award to be external examination conducted by the Schools Board.

The old qualifications (Schools Board Certificate and Matriculation) were essentially *group* certificates, requiring passes in a number of prescribed subjects in prescribed combinations. The new certificates (School Certificate and Higher School Certificate) record achievement in individual subjects. The University is free to determine the qualifications for entry but has agreed to accept certain subjects at certain levels in the Higher School Certificate as satisfying its requirements.

Adult Education

Origin and Organisation

Adult education in Tasmania can be traced back to 1914 when the tutorial class movement began in Hobart with three classes and one part-time tutor. The movement spread to the north and north-west, the principal supporters being the Workers' Educational Association and the University, aided by government grants. The *Adult Education Act* 1948 established a board of nine members, three representing the Education Minister, and six representing (i) University; (ii) Library Board; (iii) Workers' Educational Association; (iv) Arts Council; (v) Broadcasting Commission; (vi) Education Department.

The Board has a director and nine professional officers. There are two permanent centres in Hobart, one with a 300-seat auditorium; there are also adult education or community centres in Launceston, Devonport and Burnie, as well as a residential college, for short courses, at Campbell Town (known as 'The Grange').

Operations

Courses: Most classes consist of 10 weekly meetings but there has been a trend to longer ones. In 1967, there were over 600 classes, interesting about 7,700 students and requiring 270 part-time tutors; most classes are held in the evenings. Subjects range from yoga to driving but most popular appear to be art, cookery, homecrafts, languages, literature and music.

Lectures: These cover a wide field and are given, in some cases, by visitors from other States or overseas. Each year the Sir John Morris Memorial Lecture is delivered by an Australian who has achieved world stature in his particular field.

Residential School: The Grange Residential College, leased from the National Trust, was opened in 1964 for short-term courses. Built in 1847, this elegant country house can provide sleeping facilities for 27 and, in its first two and a half years of use, has been the centre for courses, weekend schools, summer schools and conferences attracting 2,500 students.

Drama: This is fostered by providing producers, equipment and advisory services. The Board's drama officer and other experienced tutors assist amateur groups with rehearsals and productions. The Board, on occasions, co-operates in major projects outside the normal scope of amateur groups.

Art and Music: Open-air art exhibitions are held in Hobart and Launceston and special indoor showings of Tasmanian and Australian works are organised; travelling exhibitions are also arranged. Music appreciation is fostered by: open-air concerts; concerts of recorded music; lunch-hour recitals; and State tours by individual performers and groups.

Remote Areas: The Board encourages the formation of discussion groups in isolated areas, providing a recorded lecture service with slides as illustration. Critical notes on books maintain services in more remote areas.

The following table shows the annual expenditure from Consolidated Revenue on adult education:

**Expenditure on Adult Education
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Adult Education (excluding Loan Fund Expenditure) | 102 | 111 | 119 | 127 | 122 |

University of Tasmania

History

The University of Tasmania was founded in 1890, and was the fourth to be established in Australia. Teaching began in 1893 with three lecturers and six students on four acres of land in the Queen's Domain at Hobart.

Growth of the University was slow for the first half century, despite the State's progressive policy in education generally. The Faculties of Arts, Science and Law were originally established, with Commerce added in 1919 and Engineering in 1922. At the outbreak of World War II, the teaching staff in many departments consisted of one full-time professor or lecturer, possibly with part-time assistants.

After the war, the influx of ex-servicemen filled all Australian universities to capacity and student enrolments in Tasmania rose to 740 in 1947. Financial assistance from both State and Commonwealth Governments enabled the staff to be almost doubled between 1945 and 1950 and energetic research schools developed. A Faculty of Education was established with responsibility for some of the State's teacher training. New chairs in such subjects as psychology, geology, botany, zoology and political science were created. In 1957 came the Murray Report on the Australian Universities, leading to a significantly increased flow of Commonwealth money into Australian universities generally. It also led to the decision to found Faculties of Agricultural Science and Medicine in Tasmania.

New Site and Post-war Enrolments

The present site at Sandy Bay was chosen in 1944. Army-type huts were erected to accommodate temporarily the rapidly growing science departments. The first permanent building was occupied in 1957 and rapid development has followed, with Commonwealth assistance in financing the building programme.

The following table shows the number of teaching staff and students in selected years:

University Teaching Staff and Students Enrolled

| Particulars | 1945 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|------------------------------------|------|-------|-------|-------|-------|-------|-------|
| Teaching Staff (Full-time) | | | | | | | |
| Professors | 12 | 19 | 19 | 19 | 20 | 25 | 26 |
| Others | 31 | 101 | 108 | 112 | 125 | 134 | 138 |
| Total Staff .. | 43 | 120 | 127 | 131 | 145 | 159 | 164 |
| Individual Students Enrolled | 503 | 1,572 | 1,691 | 1,863 | 2,083 | 2,346 | 2,443 |

The next table shows the teaching staff and courses in which students were enrolled:

University Staff and Enrolments, 1967

| Teaching Staff (Full-Time) | | Student Enrolments Gross (a) | | | |
|--|--------|-------------------------------|---------------------|------------------|---------|
| Particulars | Number | Course | New Enrolments 1967 | Total Enrolments | |
| | | | | Males | Females |
| Professors | 26 | Arts | 252 | 365 | 471 |
| Associate Professors and Readers | 17 | Science | 117 | 301 | 75 |
| Senior Lecturers and Lecturers | 91 | Law | 39 | 106 | 21 |
| Assistant Lecturers | 30 | Economics/Commerce | 83 | 227 | 16 |
| | | Engineering | 47 | 152 | .. |
| | | Education | 9 | 101 | 112 |
| | | Medicine | 33 | 69 | 21 |
| | | Agricultural Science | 23 | 60 | 4 |
| | | Other (b) | 67 | 263 | 119 |
| Total | 164 | Total | 670 | 1,644 | 839 |

(a) Students enrolled in more than one course are shown in each course for which enrolled.

(b) See following paragraph for analysis.

Of the 382 enrolments classified as 'other', 150 were students seeking a master's or doctor's degree (Ph.D.) and 30 taking the diploma course in public administration. The remaining 202 enrolments represent students taking individual subjects but not as part of a degree or diploma course.

The governing body of the university is the Council, consisting of four members appointed by the teaching staff, four by the graduates through Convocation, one by the undergraduates, two by the two Houses of Parliament, four by the Governor, and three by the Governor on the recommendation of the Council. The Director of Education is an ex-officio member. The Chancellor is chairman, as he is constitutionally and ceremonially the senior member of the University. The chief executive officer is the Vice-Chancellor.

Degrees Conferred

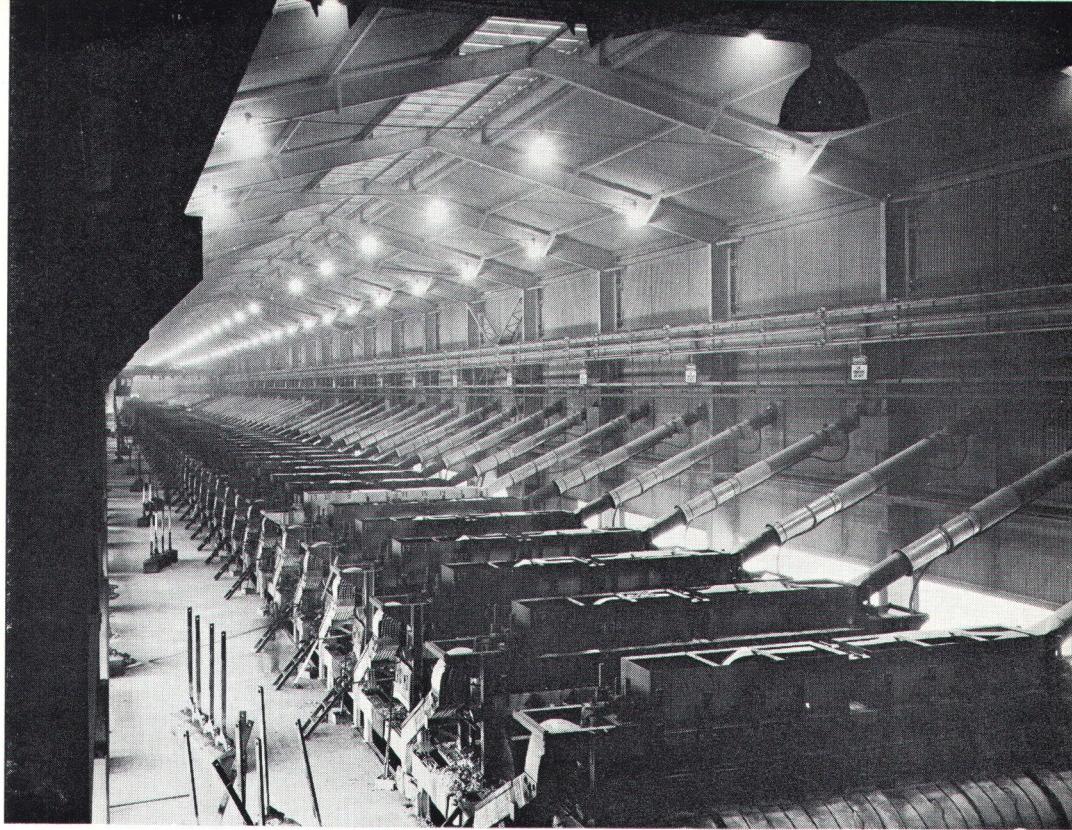
The following table shows degrees conferred:

University of Tasmania—Degrees Conferred (a)

| Degree (b) | | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|--------------------|---------|------|------|------|------|------|------|
| M.A. | Males | 3 | 2 | 2 | 4 | 2 | 2 |
| | Females | .. | .. | .. | .. | 1 | 1 |
| B.A. | Males | 33 | 40 | 42 | 53 | 64 | 56 |
| | Females | 30 | 37 | 50 | 61 | 56 | 87 |
| M.Sc. | Males | 1 | 4 | .. | 1 | 1 | 3 |
| | Females | .. | 1 | .. | .. | .. | .. |
| B.Sc. | Males | 35 | 48 | 44 | 49 | 63 | 50 |
| | Females | 5 | 6 | 10 | 8 | 12 | 8 |
| I.L.B. | Males | 10 | 6 | 13 | 11 | 10 | 17 |
| | Females | .. | 1 | 1 | .. | 2 | 1 |
| B.Ec./B.Com. | Males | 14 | 21 | 11 | 15 | 19 | 26 |
| | Females | 1 | 1 | .. | 1 | 3 | .. |
| B.E. | Males | 10 | 20 | 18 | 21 | 13 | 17 |
| | Females | .. | .. | .. | .. | 2 | .. |
| B. Agr.Sc. | Males | .. | .. | .. | .. | .. | 5 |
| | Females | .. | .. | .. | .. | .. | .. |
| Other | Males | .. | 5 | 8 | 7 | 11 | 6 |
| | Females | 1 | .. | .. | 1 | .. | .. |
| Total | Males | 106 | 146 | 138 | 161 | 183 | 182 |
| | Females | 37 | 46 | 61 | 71 | 76 | 97 |

(a) Excluding honorary degrees.

(b) Bachelors' degrees include bachelors' degrees with honours.



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The electric furnaces at Comalco aluminium plant

(Dept of Film Production)

The final product, Burnis paper making plant

(Page 238)

(Dept of Film Production)





(Page 257)

(*The Examiner*)

*The pellet making plant and off-shore berths at Port Latta
iron ore terminal*

A Devonport unit of the Mersey General Hospital complex

(Page 400)

(*Dept of Film Production*)



Finance

The following table shows the income and expenditure of the University of Tasmania:

University Income and Expenditure (*a*) 1967

| Income | \$'000 | Expenditure | \$'000 |
|-------------------------------|--------|--|--------|
| State Government Grant .. | 1,600 | Teaching and Research | 2,663 |
| Commonwealth Govt Grant .. | 1,241 | Administration and General .. | 345 |
| Other Grants and Donations .. | 112 | Libraries | 249 |
| Student Fees | 599 | Building and Grounds—Maintenance | 313 |
| Halls of Residence | 90 | Other | 193 |
| Other | 98 | | |
| Total | 3,740 | Total | 3,763 |

(*a*) This statement refers only to current income and expenditure. In 1966-67, the State Loan Fund recorded expenditure of \$1,140,000 on the University and \$163,000 on Jane Franklin Hall.

The next table summarises income and expenditure over a five-year period:

University Income and Expenditure—Summary
(\$'000)

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|-----------------------------------|-------|-------|-------|-------|-------|
| Income— | | | | | |
| Government Grants (<i>a</i>) .. | 1,592 | 2,077 | 2,275 | 2,626 | 2,841 |
| Other | 371 | 511 | 660 | 679 | 899 |
| Total | 1,964 | 2,589 | 2,935 | 3,305 | 3,740 |
| Expenditure— | | | | | |
| Total (<i>b</i>) | 2,029 | 2,349 | 3,092 | 3,274 | 3,763 |

(*a*) State and Commonwealth.

(*b*) Excludes expenditure on new buildings and other capital works.

Residential Colleges

There are four residential colleges in the University. Christ College was affiliated with the University in 1933, moved to new premises at Dynnynre from the Domain in 1962 and provides accommodation for 103 students. It still caters for a few Anglican theological students. Hytten Hall was opened in 1959 and accommodated 120 students. Extensions have raised this figure to 190 students. St John Fisher College was opened in 1962, accommodates 46 students and is under the direction of the Catholic Church. Jane Franklin Hall was founded by the Tasmanian Council of Churches in 1950 as a hall of residence providing accommodation for 85 female students.

Buildings

By 1967, the Faculties of Arts, Commerce, Education, Science and Engineering were mainly housed in permanent buildings, and others have been completed for the Library, the Union, and the administrative staff. Projects under construction or planned for the immediate future include buildings for Medicine and Law, and a gymnasium. Most of the present teaching buildings will have to be extended.

Future Plans

The development of the Medical School will be the University's major project for some time to come, needing one building at the University (under construction 1968) for the teaching of anatomy, physiology and biochemistry, and a clinical building on the site of, and linked with, the Royal Hobart Hospital.

Further development is required for the Faculty of Agricultural Science, the Library and the Computer Centre. This Centre is a joint project with the Hydro-Electric Commission, a computer having been installed in 1964.

Commonwealth Department of Education and Science

The Commonwealth Role in Education

Traditionally education has been a concern of the States; however, in 1945 a Commonwealth Office of Education was established and a branch was opened in Hobart. The principal functions of the Tasmanian branch were: migrant education; and administration of Commonwealth University Scholarships. The Hobart office was closed in 1951, and its functions were transferred to the State, which acted as an agent for the Commonwealth. In 1964 the growing commitment of the Commonwealth Government in education led to the re-opening of its office in Hobart.

Since 1964-65, the Commonwealth has directly financed certain educational activities once exclusively State responsibilities and educational grants have been made under Section 96 of the Constitution. In addition to aid given to students under five Commonwealth scholarship schemes, grants are also made for universities, technical training facilities, the provision of science laboratories and apparatus, and for teachers colleges. Research projects, mainly in universities, also benefit by grants from the Commonwealth Government.

The Commonwealth grants to universities and colleges of advanced education are made in accordance with Commonwealth-State matching formulae, involving agreed expenditure by the States. The Commonwealth acts alone in the matter of grants: (i) for the construction of teachers colleges, provided that 10 per cent of available places are filled by students not bonded to State education departments; (ii) technical training facilities; (iii) science facilities.

The following table shows the amounts paid by the Commonwealth Government for education in Tasmania over a three year period:

**Total Commonwealth Payments for Education in Tasmania
(\$'000)**

| Particulars | 1965-66 | 1966-67 | 1967-68 |
|---|---------|---------|---------|
| Payments made for— | | | |
| University | 1,171 | 1,422 | 1,827 |
| Colleges of Advanced Education .. | .. | 59 | 138 |
| Student Assistance—Benefits paid to Students | 435 | 558 | 634 |
| Teachers Colleges | .. | .. | 360 |
| Technical Training | 334 | 334 | 334 |
| Science Facilities | 331 | 331 | 420 |
| Research | 77 | 63 | 158 |
| Total | 2,348 | 2,767 | 3,871 |

University of Tasmania

In the triennium 1967-1969, proposed Commonwealth payments to the University of Tasmania are to total nearly \$6.0m, consisting of \$2.3m for capital costs and \$3.7m for recurrent expenditure.

Colleges of Advanced Education

Proposed Commonwealth payments for the same period 1967-1969 are to total \$1,854,000, made up of \$1,300,000 for capital costs and \$554,000 for recurrent expenditure. The major Tasmanian project is the construction of

a College of Advanced Education at Mt Nelson. During 1967 the Commonwealth and Tasmanian Governments brought a team of U.S. consultants to the State to plan the educational specifications for the College.

Technical Training Facilities

Commonwealth grants are made to extend and improve facilities for training apprentices and technicians. Since 1964-65 annual grants of \$334,000 have been made to Tasmania.

The application of these grants on projects in Tasmania, in the three years ended 30 June 1967, has been: Burnie Technical College, \$70,284; Hobart Technical College, \$727,319; and Launceston Technical College, \$204,997. A further \$334,000 will be granted in 1967-68 and in the three year period ending 1970-71 grants will be \$325,400 per annum.

Science Facilities

Commonwealth grants have been made since July 1964 to assist in the construction and equipping of science teaching facilities in government and non-government schools. A sum of \$331,000 annually was allocated between government and non-government schools in proportion to the number of secondary school enrolments in each (\$241,800 and \$89,200).

The total planned distribution for the three years ended 30 June 1971 is to be: government schools, \$706,500; and non-government schools, \$520,000 (the earlier distribution formula has been varied to give greater assistance to non-government schools).

Teachers Colleges

The Commonwealth Government is providing \$1.5m for the construction of a new teachers college at Launceston.

Research Projects

In May 1965 the Australian Research Grants Committee was established to advise the Commonwealth Government on the granting of money for research projects. In 1966, the Commonwealth and State Governments each allocated \$2m (a total of \$4m) for Australian research projects. Because the States decided not to make further contributions, the Commonwealth will make \$3m available annually in the 1967-1969 triennium.

Research grants awarded to the University of Tasmania are as follows: 1966, \$238,000; 1967, \$148,000; 1968, \$221,903.

Commonwealth Scholarship Schemes

The Commonwealth Government makes payments to students under five Commonwealth Scholarship Schemes. Details follow:

Commonwealth University Scholarship Scheme: This scheme provides assistance to students taking approved degree courses at an Australian University. Selection is based upon results obtained in the matriculation examination or in an approved degree course. In Tasmania, approximately 200 awards are made each year. Benefits include the payment of all compulsory fees and, subject to a means test, a maximum living allowance of \$559 per annum for a student living with his parents, or \$904.80 for a student living away from home.

Commonwealth Advanced Education Scholarship Scheme: Under this scheme assistance is provided to those taking approved diploma courses in Australia. Selection is based on results obtained in the matriculation examination or in

an approved course. Approximately 30 awards are made each year in Tasmania. Benefits are the same as those payable under the Commonwealth University Scholarship Scheme. Under both schemes, a guidance service is provided by the Commonwealth Department of Education and Science.

Commonwealth Technical Scholarship Scheme: An annual quota of 80 scholarships is available to Tasmanian students to assist them with approved full-time or part-time courses, mainly at certificate or technical level and in approved full-time diploma courses in Art, Music and Agriculture. Full-time students are paid a maximum of \$400 per annum, and a minimum of \$250. Part-time students receive \$100 per annum plus payment of compulsory fees.

Commonwealth Secondary Scholarship Scheme: Each year approximately 320 Tasmanian secondary school students are awarded a two-year scholarship to assist them with study for the matriculation examination. Each scholarship is worth a maximum of \$400 per annum and a minimum of \$250. Components of the scholarship are: living allowance \$200; book allowance, \$50; and tuition fees of \$150 (if paid).

Commonwealth Post-Graduate Awards: Awards are made annually to enable students to undertake post-graduate studies at an Australian university. Selection is made by each University and the award, subject to annual renewal, may be held for a maximum of four years. The stipend paid to award holders varies according to which university is chosen but, for the first year of tenure, the amount is usually in the range \$1,800-\$2,200.

Expenditure: The following table shows Commonwealth expenditure on Scholarship Schemes in Tasmania since 1964-65:

**Expenditure: Scholarship Schemes
(\$'000)**

| Type of Scholarship | 1964-65 | 1965-66 | 1966-67 | 1967-68 |
|--------------------------------|---------|---------|---------|---------|
| University | (a) | 204 | 289 | 349 |
| Advanced Education | .. | 6 | 15 | 19 |
| Technical | 3 | 6 | 12 | 25 |
| Secondary | 129 | 180 | 184 | 178 |
| Post-Graduate | 30 | 39 | 58 | 63 |
| Total | (a) | 435 | 558 | 634 |

(a) Not available.

Scholars in Training: The next table shows the number of students holding each type of Commonwealth Scholarship in Tasmania at 30 June:

Number of Scholars in Training at 30 June

| Particulars | 1965 | 1966 | 1967 | 1968 |
|--------------------------------|------|------|------|------|
| University | 374 | 414 | 503 | 566 |
| Advanced Education | .. | 40 | 66 | 92 |
| Technical | 26 | 32 | 62 | 122 |
| Secondary | 579 | 583 | 572 | 564 |
| Post-Graduate | 15 | 21 | 32 | 32 |

International Scholarship Schemes

Students come to Australia to study under a variety of schemes, e.g. the Colombo Plan, Special Commonwealth African Assistance Plan, the Australian International Award Scheme, the Australian South Pacific Technical Assistance Programme, SEATO, UNESCO, Commonwealth Co-operation in Education, etc.

In Tasmania the number of sponsored students receiving training in educational institutions has increased rapidly since 1960. Training is arranged, usually on a full-time basis, with the University of Tasmania, the Tasmanian Education Department, non-government schools, government departments, and industry. In addition to long-term sponsored students, short-term visitors have also been brought to the State for periods of up to one year, for specialised experience in educational, industrial, commercial, technical, or scientific fields. In the three years 1965-1967, 125 short-term visitors of this type came to Tasmania.

The Department of Education and Science arranges reception, accommodation, travel and payment of allowances for all sponsored students and also makes arrangements for their training. Professional guidance on academic matters is provided by education officers for all overseas students, both sponsored and private. The Hobart office also acts on behalf of the Department of External Affairs for all welfare matters concerning overseas students.

Sponsored Training Statistics: The majority of full-time sponsored students, as the next table shows, come to Tasmania under the Colombo plan:

Number of Full-Time Sponsored Students

| Scheme | 1960 | 1964 | 1965 | 1966 | 1967 | 1968 |
|-----------------|------|------|------|---------|---------|---------|
| Colombo Plan .. | 5 | 75 | 78 | (a) 104 | (a) 101 | (a) 104 |
| Other .. | .. | 1 | 3 | 4 | 4 | 15 |
| Total .. | 5 | 76 | 81 | 108 | 105 | 119 |

(a) Colombo Plan figures, from 1966 onwards, include ten students in non-government schools. All other trainees were, or are, at the University of Tasmania.

Enrolment: In 1968, 109 full-time sponsored students were enrolled at the University of Tasmania, and a further ten were studying for matriculation. The most popular bachelor degree courses, for sponsored students, in 1968 were: Engineering, 34; Science, 27; Arts, 27; Agricultural Science, 11; and Economics, 4.

Other Scholarship Schemes

The Department of Education and Science plays a role in the administration of the following scholarship schemes: Queen Elizabeth II Fellowships; ANZAC Fellowships; Australian Agricultural Council Scholarships; Australian-American Educational Foundation Awards; Confederation of British Industry Scholarships; and various scholarships offered to Australians by overseas governments.

SOCIAL WELFARE

Commonwealth Department of Social Services

In Australia, the major role in the field of social welfare is played by the Commonwealth Government and benefits are uniform throughout the States. In this chapter, the rates of benefits are specified and the conditions governing them are stated in broad outline. The role played by the Tasmanian Government is described in a later section headed 'State Department of Social Welfare'.

The following table shows expenditure in Tasmania from the National Welfare Fund on benefits under the Federal *Social Services Act*. The most noticeable fluctuations occur in expenditure on unemployment benefits.

**Commonwealth Welfare Services Payments
(\$'000)**

| Benefit or Service | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------|---------|---------|---------|---------|---------|---------|
| Age and Invalid Pensions .. | 11,404 | 11,717 | 12,343 | 13,184 | 13,439 | 14,574 |
| Child Endowment (a) .. | 4,993 | 5,045 | 6,113 | 6,306 | 6,318 | 6,912 |
| Rehabilitation Service .. | 50 | 39 | 44 | 60 | 54 | 60 |
| Funeral Benefits .. | 23 | 24 | 25 | 26 | 33 | 39 |
| Maternity Allowances .. | 289 | 277 | 272 | 251 | 243 | 243 |
| Widows' Pensions .. | 1,037 | 1,084 | 1,467 | 1,699 | 1,791 | 1,983 |
| Unemployment Benefits .. | 696 | 783 | 750 | 583 | 275 | 228 |
| Sickness Benefits .. | 163 | 203 | 215 | 201 | 174 | 190 |
| Special Benefits .. | 38 | 44 | 52 | 52 | 57 | 47 |
| Total .. | 18,694 | 19,216 | 21,281 | 22,363 | 22,384 | 24,276 |

(a) In 1963-64 and 1966-67, five twelve-weekly payments were credited directly to bank accounts instead of four.

Commonwealth activity in social services began in 1909 with the passage of the Federal *Invalid and Old Age Pensions Act*. This and the *Maternity Allowances Act* were administered by the Department of the Treasury until 1941 when the Department of Social Services commenced to function as a separate organisation. Later, the functions of the Department were widened with the passing of the *Child Endowment Act*, the *Widows' Pensions Act* and the *Unemployment and Sickness Benefits Act*. A referendum held in 1946 empowered the Commonwealth to legislate for the provision of certain social services formerly provided by the States. In 1947, a consolidated *Social Services Act* was passed. The Department also administers the *Aged Persons Homes Act* and the *Sheltered Employment (Assistance) Act* and co-operates with the Commonwealth Department of Health in the administration of the *National Health Act*.

Budget of August 1968

In the section that follows, a description is given of the various pensions, benefits, etc. The rates and conditions are varied from time to time by amending legislation; those shown are those announced in the Federal Budget of August 1968 (the Federal Treasurer outlines social service proposals in his budget and these are implemented in later Acts).

Age and Invalid Pensions

Generally pensions are payable to persons who have been resident in Australia, New Zealand or the United Kingdom for 10 years in the case of age pensioners, and five years in the case of invalid pensioners. (Reciprocity agreements exist with New Zealand and the United Kingdom.)

The qualifying ages for age pensions are 65 years for men and 60 years for women; invalid pensions are payable to persons over 16 years of age who are permanently incapacitated for work. Additional allowances are payable for dependants under certain conditions.

For age and invalid pensions, the same means test on income and property operates. 'Means' can consist entirely of income, entirely of property, or any combination of them. The calculation of income excludes the pension itself, income from property, gifts from family, benefits from hospital and medical insurance schemes, child endowment, etc.; the property component excludes home, furniture, personal effects, the first \$400 of property and \$1,500 surrender value of life policies, and the capital value of any life interest, annuity or contingent interest, etc. Blind persons, however, may receive the maximum rate of pension free of means test.

The next table shows the pension rates and the limits of the sliding scale used to progressively reduce them when means as assessed exceed the allowable minima:

Age and Invalid Pension Rates, Budget of August 1968
(\$)

| Particulars | Yearly Amounts | | Weekly Equivalents | |
|-----------------------|----------------------|---|----------------------|---|
| | Maximum Rate Pension | Means as Assessed: Sliding Scale Limits (a) | Maximum Rate Pension | Means as Assessed: Sliding Scale Limits (a) |
| Single Pensioner ... | 728 | 520-1,248 | 14.00 | 10.00-24.00 |
| Married Pensioners... | 1,300 | 884-2,184 | 25.00 | 17.00-42.00 |

(a) Lower limit and below, no reduction in pension; if upper limit exceeded, pension ceases.

The sliding scale operates as follows: the amount by which means as assessed exceed the permissible minima in the table is deducted from the maximum rate pension. Property taken into account in calculating means as assessed is taken at 10 per cent to give an annual value. A single pensioner can therefore own property, in addition to exempt property, up to \$5,600 without reduction of pension (10 per cent of [\$5,600 less \$400] = \$520), and up to \$12,880 before pension ceases (10 per cent of [\$12,880 less \$400] = \$1,248). With married pensioners, the corresponding lower and upper property limits are \$9,640 and \$22,640.

Supplementary (rental) assistance of up to \$2 a week is payable to age or invalid pensioners who pay rent and whose *means as assessed* do not exceed \$52. This assistance is reduced by the amount of means in excess of \$52.

Free medical service and medicine are provided for pensioners and their dependants, and a concessional telephone rental equal to two-thirds of the amount otherwise payable is available to blind people, pensioners who live alone, and to certain others. Radio and television licences at a reduced rate are also available to these pensioners.

On the death of one of a married pensioner couple, the survivor receives six fortnightly instalments at the old rate before suffering reduction to the single rate (introduced in 1968 Budget).

A wife's allowance of \$364 a year (\$7 a week) may be paid, subject to the means test, to a non-pensioner wife. The rate of additional payments for children of pensioners is \$2.50 per week per child (with replacement of child's allowance by additional pension for first child). A guardian's allowance of \$208 a year (\$4 a week) is payable, subject to means test, to widowers and other unmarried pensioners with one or more children.

Pensions are paid fortnightly in advance by cheque posted to the pensioner's address.

Widows' Pensions

These were introduced by the Curtin Government in 1942. They were payable to widows who had been resident in this country, New Zealand or the United Kingdom for five years before claiming a pension, or for one year if the woman and her husband were living permanently in Australia before he died. The classes of widows are as follows: (i) a Class A widow has one or more dependent or student children in her care; (ii) a Class B widow is at least 50 years of age, or 45 years when her Class A pension ceases (because she no longer has a child in her care); (iii) a Class C widow is under 50, without

children, and in necessitous circumstances in the 26 weeks following her husband's death. The term 'widow' includes a deserted wife, a divorcee and a woman whose husband has been imprisoned for at least six months or is a patient in a mental hospital. Certain 'dependent females' may also qualify for pension. The residence qualification was liberalised in the 1968 Budget and requires only that the couple were residing permanently in Australia when the claimant was widowed.

The maximum rate of widows' pensions are as follows:

Class A—\$936 a year (\$18 a week) plus \$2.50 weekly for each qualifying child;
Class B—\$650 a year (\$12.50 a week); Class C—\$12.50 a week.

There is no specific means test for Class C pensioners, the decision on 'necessitous circumstances' being at the discretion of the Director of Social Services; if the widow is expecting a child, payment continues until the birth, when she may qualify for a Class A pension. A means test on income and property for A and B class pensioners operates. Widow pensioners are also eligible for the pensioner medical service, supplementary (rental) assistance of \$2 per week where rent is paid and the widows' means as assessed do not exceed \$52, concessional radio and television licence fees and telephone rentals.

In 1968, a widows' vocational training scheme was introduced (where participation in the work force was inhibited by the pensioner's lack of skill or training).

The following table shows, for Tasmania, the number and sex of persons receiving age, invalid and widows' pensions, and the amounts paid out in pensions and allowances:

Age, Invalid and Widow Pensioners and Payments

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------------------|---------|---------|---------|---------|---------|---------|
| Age and Invalid Pensions— | | | | | | |
| Number of Age Pensioners (a) | | | | | | |
| Males | 5,548 | 5,572 | 5,779 | 5,799 | 5,809 | 5,964 |
| Females | 11,974 | 12,188 | 13,024 | 13,093 | 13,372 | 13,626 |
| Persons | 17,522 | 17,760 | 18,803 | 18,892 | 19,181 | 19,590 |
| Number of Invalid Pensioners (a) | | | | | | |
| Males | 1,822 | 1,844 | 1,966 | 2,055 | 2,027 | 2,086 |
| Females | 1,477 | 1,499 | 1,397 | 1,477 | 1,417 | 1,444 |
| Persons | 3,299 | 3,343 | 3,363 | 3,532 | 3,444 | 3,530 |
| Amount of Pensions Paid (\$'000) | 11,404 | 11,717 | 12,343 | 13,184 | 13,439 | 14,574 |
| Widows' Pensions— | | | | | | |
| Number of Pensioners (a) | 1,912 | 1,977 | 2,109 | 2,248 | 2,327 | 2,432 |
| Amount of Pensions Paid (\$'000) | 1,037 | 1,084 | 1,467 | 1,699 | 1,791 | 1,983 |

(a) At 30 June.

Unemployment, Sickness and Special Benefits

Legislation for these benefits was introduced in 1944 by the Curtin Government and payments began in 1945. The minimum age is 16 years, the maximum 65 (male) and 60 (female). There are no nationality restrictions, but if a claimant has not been resident in Australia for one year before making the claim, the Department must be satisfied that he intends to live here permanently. Benefits are not payable to people qualified to receive invalid, age, widows' or service pensions, or tuberculosis allowances.

To receive unemployment benefit, a person must be out of work (but not through being a direct participant in a strike); must be capable of undertaking and willing to undertake suitable work; and have taken reasonable steps to obtain employment. Registration with the Commonwealth Employment Service is necessary; payment is at the discretion of the Department of Social Services.

Sickness benefit may be paid to a person temporarily unable to work because of sickness or accident, and who has suffered a loss of income because of this.

A special benefit may be granted to a person not qualified for a pension or an unemployment or sickness benefit if, because of age, physical or mental disability, domestic circumstances, or for other valid reasons, he is unable to earn a sufficient livelihood for himself and his dependants.

The maximum rate of unemployment, sickness and special benefit payable is \$8.25 weekly for an adult or married minor, plus \$6 for a dependent spouse (or unpaid housekeeper if one or more children are maintained), and \$1.50 for each dependent child under 16 years; unmarried minors receive either \$3.50 or \$4.75 a week, according to age. A means test operates which allows a maximum income of \$4 a week, or \$2 in the case of minors. If the claimant's income from other sources (with exclusions such as child endowment, war pension and reimbursements from registered health or benefit organisations) exceeds the maximum, the benefit is reduced by the amount of the excess. The spouse's income can cause reduction or elimination of additional dependant's benefit.

The following table shows, for Tasmania, the unemployment, sickness and special benefits granted, and the expenditure on each (together with weekly averages of those in receipt of each type of benefit):

**Commonwealth Unemployment, Sickness and Special Benefits
Beneficiaries and Payments**

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| Unemployment Benefits— | | | | | | |
| Claims Granted .. (no.) | 8,273 | 7,141 | 6,720 | 5,255 | 2,742 | 3,166 |
| Persons on Benefit— | | | | | | |
| At 30 June .. (no.) | 1,778 | 1,777 | 1,399 | 926 | 433 | 526 |
| Weekly Average .. (no.) | 1,541 | 1,497 | 1,435 | 1,117 | 516 | 433 |
| Benefits Paid .. (\$'000) | 696 | 783 | 750 | 583 | 275 | 228 |
| Sickness Benefits— | | | | | | |
| Claims Granted .. (no.) | 2,000 | 2,099 | 2,167 | 2,238 | 2,040 | 2,147 |
| Persons on Benefit— | | | | | | |
| At 30 June .. (no.) | 304 | 303 | 289 | 272 | 298 | 267 |
| Weekly Average .. (no.) | 262 | 301 | 300 | 287 | 263 | 281 |
| Benefits Paid .. (\$'000) | 163 | 203 | 215 | 201 | 174 | 190 |
| Special Benefits— | | | | | | |
| Claims Granted .. (no.) | 93 | 111 | 135 | 122 | 122 | 160 |
| Persons on Benefit— | | | | | | |
| At 30 June .. (no.) | 95 | 103 | 129 | 120 | 115 | 102 |
| Weekly Average .. (no.) | 96 | 102 | 118 | 116 | 121 | 104 |
| Benefits Paid .. (\$'000) | 38 | 44 | 52 | 52 | 57 | 47 |
| Total Benefits— | | | | | | |
| Total Claims Granted .. (no.) | 10,366 | 9,351 | 9,022 | 7,615 | 4,904 | 5,473 |
| Persons on Benefit— | | | | | | |
| At 30 June .. (no.) | 2,177 | 2,183 | 1,817 | 1,318 | 846 | 895 |
| Weekly Average .. (no.) | 1,899 | 1,900 | 1,853 | 1,520 | 900 | 818 |
| Total Benefits Paid .. (\$'000) | 897 | 1,030 | 1,017 | 837 | 506 | 464 |

Maternity Allowances

Maternity allowances were introduced by the Fisher Government in 1912. There is no means test and any mother is entitled to a maternity allowance if she gives birth to a child in Australia and if she resides or intends to remain in Australia. It may also be paid in certain other cases, e.g. a birth on a ship proceeding to Australia. Payment is a *single grant* of \$30 where there are no other children; \$32 where there are one or two other children and \$35 where there are three or more children in the mother's care. The amount is increased by \$10 for each additional child in a multiple birth; \$20 of the allowance may be paid four weeks before the birth, and the balance soon after.

The following table shows payments in Tasmania:

Maternity Allowances

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------------------|---------|---------|---------|---------|---------|---------|
| Claims Paid During Year (no.) | 8,942 | 8,560 | 8,437 | 7,821 | 7,578 | 7,606 |
| Amount Paid During Year (\$'000) | 289 | 277 | 272 | 251 | 243 | 243 |

Child Endowment

Child endowment was introduced by the Menzies Government in 1941, and is paid to persons or institutions having the care, custody and control of children under 16 years, or student children under 21. One year's residence in Australia is required if the mother and child were not born here, but this requirement is waived if the Department is satisfied they intend to remain here permanently.

There is no means test and weekly rates are 50 cents for the first child, \$1 for the second, \$1.50 for the third, \$1.75 for the fourth, \$2 for the fifth and so on. The rate for all student children and for children being cared for by institutions is \$1.50. Endowment is paid in arrears and either credited to a bank account each twelve weeks, sent by cheque or cashed by order at a post office each 28 days. For student children, payment is made only by cheque each 12 weeks.

The following table shows statistics of child endowment in Tasmania:

Child Endowment**Children (including Students) Endowed and Payments**

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|---------|
| Endowed Children and Students (a)— | | | | | | |
| Children in Endowed Families (no.) | 126,634 | 127,261 | 126,413 | 126,526 | 126,870 | 127,688 |
| Children in Approved Institutions (no.) | 381 | 403 | 483 | 521 | 401 | 499 |
| Students (no.) | .. | .. | 3,026 | 3,623 | 3,933 | 4,015 |
| Total Endowed .. (no.) | 127,015 | 127,664 | 129,922 | 130,670 | 131,204 | 132,202 |
| Amount Paid During Year (b) (\$'000) | 4,993 | 5,045 | 6,113 | 6,306 | 6,318 | 6,912 |

(a) Number at 30 June. Children, those under 16 years; students, 16 but under 21 years.

(b) In 1963-64 and 1966-67, five twelve-weekly payments were credited directly to bank accounts instead of four.

Funeral Benefits

These were introduced by the Curtin Government in 1943 and provide for a payment of \$20 to the person meeting funeral costs, following the death of an invalid or age pensioner, or of a tuberculosis sufferer otherwise qualified to receive a pension. The amount is increased up to \$40 where the claimant is himself a pensioner, or if the payment is in respect of the pensioner claimant's wife or child.

Pensioner Health Benefits and Tuberculosis Allowances

The pensioner medical service and tuberculosis allowances are described in this chapter under the heading 'Health'.

Commonwealth Rehabilitation Service

In 1941, the Curtin Government introduced provisions for the vocational training of invalid pensioners. In 1948, the Chifley Government provided for the rehabilitation of invalid pensioners and of unemployment and sickness benefit recipients. The Menzies Government in 1955 extended eligibility to persons receiving tuberculosis allowances and to children of 14 and 15 years who otherwise might qualify for an invalid pension at 16. In 1958, widow pensioners and people receiving special benefit were granted eligibility.

The Service aims to fit handicapped people for employment by supplying medical and hospital treatment, surgical aids and appliances, and where necessary, arranging special education and training courses in industry, public service, etc. Vocational counsellors arrange employment with suitable employers and follow up progress. During training, rehabilitees receive the invalid pension plus an \$8 per fortnight training allowance.

Rehabilitation training is given if the disability is a substantial handicap to engaging in full employment and if there are reasonable prospects of the person working within three years of starting treatment or training. Disabled people who do not qualify for free service may pay for rehabilitation themselves, or may be sponsored by private or government organisations. In Tasmania, the Department's rehabilitation centre is located in Hobart.

The following table shows the numbers accepted for rehabilitation and placed in employment in Tasmania:

Operation of Commonwealth Rehabilitation Service

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------------|---------|---------|---------|---------|---------|---------|
| Persons— | | | | | | |
| Accepted for Rehabilitation (no.) | 100 | 79 | 102 | 80 | 100 | 90 |
| Placed in Employment.. (no.) | 96 | 74 | 82 | 75 | 86 | 77 |
| Expenditure (a) .. (\$'000) | 50 | 39 | 44 | 60 | 54 | 60 |

(a) Excludes capital expenditure on sites and buildings, and administrative costs of the Rehabilitation Service.

Homes for the Aged

Under the *Aged Persons Homes Act 1954*, the Menzies Government provided for subsidies, on a \$ for \$ basis, to approved organisations intending to build or acquire homes for aged persons. In 1957 the cost of land was allowed as part of the capital cost, and the Commonwealth contribution was increased to \$2 for \$1. The aim is the provision of conditions approaching ordinary domestic life. ('Homes' in this context does not refer to houses built under the

Commonwealth-State Housing Agreement.) Nine grants were made in 1966-67 totalling \$342,000, bringing the number of grants to 63 and expenditure in Tasmania to \$2.0m since the inception of the scheme.

Sheltered Workshops

The Commonwealth *Sheltered Employment (Assistance) Act* 1967 incorporated the *Disabled Persons Act* 1963. The Act's object is to foster and encourage the development of sheltered workshops for disabled people who, on medical grounds qualify, or who may later qualify, as invalid pensioners; to provide such persons with work experience, and the opportunity to earn to the limit of their capabilities for work done, the hope being that some may graduate to normal employment in the future.

Assistance is given by a \$2 for \$1 subsidy towards: (i) the capital cost of erection or addition to workshops; (ii) the accommodation of people engaged in sheltered employment; (iii) the rental for up to three years of premises used to provide sheltered employment; (iv) the cost of workshop equipment. Expenditure in Tasmania in 1966-67 for these purposes was \$51,284.

In addition, under a 1967 amendment to the *Social Services Act*, a sheltered employment allowance may be paid and the means test is relaxed to provide an incentive to earn.

State Department of Social Welfare

Expenditure

Activities of this State Government Department are grouped under Child Welfare and Relief. The following table shows expenditure over a five-year period:

**Department of Social Welfare—Expenditure
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------|---------|---------|---------|---------|---------|
| Administration and General .. | 167 | 183 | 196 | 213 | 250 |
| Relief Division | 142 | 152 | 167 | 157 | 167 |
| Child Welfare Division | 156 | 161 | 177 | 178 | 210 |
| Ashley Home for Boys | 69 | 82 | 82 | 88 | 93 |
| Grants to Organisations | 64 | 78 | 110 | 94 | 78 |
| Total | 599 | 657 | 732 | 730 | 798 |

In 1966-67, the major expenses were: under Relief Division, fuel allowances for eligible pensioners, \$78,000 and relief and maintenance, \$81,000; under Child Welfare Division, maintenance of boarded-out children, \$98,000 and contributions towards maintenance of children in approved institutions, \$71,000; and under Grants to Organisations, Tasmanian Institute for Blind and Deaf, \$67,000, including supplement to wages of blind employees, \$21,000.

Relief Division

The functions of this Division are to investigate applications for assistance from needy mothers with dependent children and to give cash relief where necessary; to issue fuel allowances (subject to a means test) to aged and invalid pensioners; and to help pay for funerals, transport, furniture removals and artificial limbs, spectacles, etc. for persons in indigent circumstances. Special grants are made to deserted wives (and sometimes deserted husbands) left with children, wives with husbands in gaol, to certain persons awaiting receipt of Commonwealth benefits or pensions, and to relatives supporting deserted

children. Domestic aid can be provided where because of illness, a mother is unable to undertake her normal duties, or where lack of domestic help would cause hardship. Housekeeper help was supplied on 10 occasions in 1966-67 at a net cost of \$2,000.

The Division made payments on behalf of the State Relief (Bush Fires) Committee; in 1966-67, it distributed \$2,360,000 and \$505,000 in 1967-68.

Child Welfare Division

The work of this Division includes the investigation of complaints that children are neglected or inadequately controlled; the supervision of neglected children in their own homes to avert the need for more drastic action; the investigation of cases to appear in Children's Courts; the supervision of children under order of the Court; the placement and supervision of children declared by the Court to be wards of the State; the control of the Department's receiving and other homes; the recovering of maintenance costs, where possible, from parents of children who are a charge on the Department; the licensing and supervision of children's boarding homes and day nurseries; the supervision of child migrants; welfare of children referred by Courts in divorce actions.

Adoption of Children: Women child welfare officers investigate applications by prospective adoptive parents and interview mothers wishing to place their children for adoption. Applications for adoption of children are heard by a magistrate. There were 282 orders for adoption made in 1966-67.

Children's Court Statistics

In Tasmania, a child cannot be prosecuted without his case having first been referred to a welfare officer for investigation and a recommendation having been made. In 1966-67, 80 children originally referred to welfare officers with a view to proceedings were not brought before Children's Courts; the following table shows the ages and sex of children reported in that year (but not necessarily involved in Children's Court proceedings):

Children in Police Reports (a), 1966-67
Classified by Age and Sex

| Sex | Age (in Years) | | | | | | | | | | Total |
|----------------|----------------|----|----|----|----|-----|-----|-----|-----|-----|-------|
| | Under 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | |
| Boys | 22 | 18 | 29 | 36 | 51 | 89 | 106 | 176 | 247 | 458 | 1,232 |
| Girls | 32 | 3 | 4 | 2 | 8 | 11 | 16 | 28 | 32 | 45 | 181 |
| Total .. | 54 | 21 | 33 | 38 | 59 | 100 | 122 | 204 | 279 | 503 | 1,413 |

(a) Police reports made to district child welfare officers with a view to prosecution. A child reported twice, or more than twice, will appear twice or more in the table.

Children's courts are established to hear cases involving persons under the age of 17 years. If proceedings are instituted, a child's parent has the right to be heard and to examine and cross examine witnesses, or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience. For the powers of children's courts, see a later section under 'Courts Having Jurisdiction in Tasmania'.

The offences for which children were reported over a five-year period are shown in the following table. Where a report concerned multiple offences the apparently more serious one has been listed.

Children in Police Reports (a), 1966-67
Classified by Offence

| Offence Alleged | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| Damage to Property | 105 | 132 | 94 | 109 | 97 |
| Breaking, Entering and Stealing | 205 | 245 | 211 | 249 | 224 |
| Stealing | 251 | 243 | 262 | 296 | 343 |
| Receiving | 18 | 17 | 7 | 29 | 18 |
| Illegal Use of Vehicle | 70 | 59 | 61 | 75 | 109 |
| Offences Involving Fraud | 3 | 12 | 6 | 8 | 8 |
| Sex Offences | 12 | 15 | 12 | 16 | 16 |
| Other Offences Against the Person | 17 | 21 | 18 | 9 | 7 |
| Offences Against Decency | 10 | 8 | 13 | 10 | 11 |
| Disorderly Conduct | 30 | 27 | 29 | 51 | 63 |
| Relatively Serious Offences | 721 | 779 | 713 | 852 | 896 |
| Traffic Offences | 99 | 134 | 83 | 105 | 128 |
| Breaches of Licensing Laws | 35 | 107 | 96 | 176 | 224 |
| Breaches of By-Laws | 37 | 52 | 18 | 24 | 26 |
| Firearm Offences | 40 | 44 | 43 | 27 | 31 |
| Other Offences .. | 211 | 337 | 240 | 332 | 409 |
| Appearing as Uncontrolled | 19 | 34 | 38 | 28 | 33 |
| Appearing as Neglected | 92 | 70 | 79 | 42 | 65 |
| Breaches of Supervision | 5 | 6 | 6 | 3 | 10 |
| Complaints under Child Welfare Act .. | 116 | 110 | 123 | 73 | 108 |
| Total | 1,048 | 1,226 | 1,076 | 1,257 | 1,413 |

(a) See note to previous table.

In the previous tables, a child may appear more than once if more than one report has been made. The following table shows the number of children found guilty of an offence or against whom a complaint has been proven; the basis for inclusion is different from that in the two earlier tables: (i) a child found guilty at two or more appearances is only counted once; (ii) a child found guilty of more than one offence is classified under the more serious.

Individual (a) Children: Findings of Guilty or Complaint Proven, 1966-67

| Sex | Relatively Serious Offences (b) | Other Offences (b) | Complaints under Child Welfare Act (b) | Total |
|----------------|---------------------------------|--------------------|--|-------|
| Boys | 511 | 284 | 23 | 818 |
| Girls | 67 | 28 | 30 | 125 |
| Total .. | 578 | 312 | 53 | 943 |

(a) See paragraph before table for definition of 'individual'.

(b) See previous table for classification of offences and complaints.

Wards of the State and Supervised Children

Children are made wards of the State either on application of a parent or relative (e.g. in the case of both parents' death or desertion), or by order of a Court. They are wards until they reach the age of eighteen years, but wardship can be terminated earlier or extended to twenty-one years at the discretion of the Minister. At 30 June 1967, there were 784 wards of the State under the supervision or control of the Department. These wards were accounted for as follows: 35 per cent in foster homes; 12 per cent in Departmental homes; 24 per cent in other children's homes; 17 per cent with friends or relatives; 8 per cent in employment and not living at home; 4 per cent in other government institutions and untraced.

Wards of the State are placed either in foster homes (in the main, ordinary family residences) or in children's homes; some of the latter institutions are privately administered while others are a direct Departmental responsibility. Payment for wards in foster homes is made by the Department and varies according to the age of the child; the total cost was \$98,000 in 1966-67. Often such payments are not required, e.g. in the case of a child whose adoption is being arranged. Non-departmental children's homes receive contributions towards the cost of maintaining wards. The total contributions were \$71,000 in 1966-67. While still under the supervision of welfare officers, wards are often returned to their parents or guardians; wardship in these cases is frequently terminated early, as it is with many who successfully take up employment.

During 1966-67, 136 children came under the guardianship of the Department. Of these 46 were admitted on the application of parents or guardians (one being uncontrollable and 45 being deserted children or children with parents unable to provide for them); courts declared a further 90 children to be wards of the State (58 having been charged with delinquency and 32 with being neglected). During the year, 18 children were discharged from control on being legally adopted and 105 because of age or because there was no further need of Departmental supervision. At 30 June 1967 there were 256 children under the supervision of child welfare officers as a result of orders imposed by the Court.

Departmental Homes: State receiving homes which provide temporary accommodation for children are maintained at Hobart, Launceston and Wynyard. Also, in Hobart, a hostel provides accommodation for older boys who have left school and need to be established in employment.

Ashley Home for Boys, Deloraine, provides care and training for older wards who, because of maladjustment or delinquency, require special institutional control. Wybra Hall (Mangalore) fulfills a somewhat similar function with the special adaptations necessary to cater for younger boys between the ages of nine and fourteen years, as does West Winds at Woodbridge.

Weeroona Girls' Training Centre (Latrobe) provides for those adolescent girls in the care of the Department who require special institutional supervision and training. Girls of school age attend schools in the district and others receive correspondence school education. Older girls are trained in various aspects of domestic work.

Non-Departmental Homes: Other children's homes in which wards are placed are Kennerley Boys' Home, Salvation Army Boys' Home, Salvation Army Girls' Home, Aikenhead House, Bethany Boys' Hostel, Mt St Canice Convent and Hillcrest, all in Hobart; Boys' Town and Yalambee Hostel, Glenorchy; Clarendon Home, Kingston; Girls Home, and Northern Tasmanian Home for Boys, Launceston, and Roland Boys' Home, Sheffield.

REPATRIATION SERVICES AND PENSIONS**General**

The Repatriation Department was established as a Commission under Federal legislation in 1920. The term 'repatriation' does not adequately describe the Department which is responsible for: (i) the payment of war and service pensions to eligible ex-service men and women and their dependants; (ii) the provision of medical treatment to ex-servicemen and women for injuries and illnesses caused or aggravated by their war service; (iii) the provision of medical treatment to widows and dependants of deceased ex-servicemen whose deaths are due to war service; and (iv) the provision of medical treatment in certain circumstances to ex-servicemen and women who are suffering from injuries and illnesses not caused or aggravated by war service.

Benefits are provided in respect of service in the 1914-18 and 1939-45 Wars, in the Korea and Malaya operations, with the British Commonwealth Far East Strategic Reserve, and the Special Overseas Forces; more recently, benefits have been extended to ex-servicemen from the Vietnam theatre of operations.

Medical Services

To discharge these functions in Tasmania, the Repatriation Department maintains a branch office, a repatriation general hospital and an artificial limb and appliance centre in Hobart. Facilities exist at the Repatriation General Hospital for medical treatment of hospitalised patients, and specialist services for out-patients. Generally, treatment for out-patients throughout the State is provided by doctors the Department has appointed as Local Medical Officers. People entitled to treatment can select a doctor from the panel of L.M.Os, and receive treatment at the Department's expense. Payment for treatment in hospitals other than the Repatriation General Hospital is met by the Department in certain circumstances.

Repatriation Pensions—General

War pensions are payable, without general application of a means test, for war-caused or war-aggravated disabilities. *Service* pensions are payable, in the main, to certain ex-servicemen 60 years and over (and ex-service women 55 years and over) subject to a means test; no disability need be claimed. *Rates quoted are those outlined by the Federal Treasurer in the Budget of August 1968.*

War Pensions*Eligibility and Rates*

War and dependants' pensions may be granted to persons, or in respect of persons, who come within the following categories and who suffered death or disability: (i) arising from any occurrence before discharge, on overseas war service or on service in Australia within certain areas; (ii) attributable directly to service where the member served only in Australia; (iii) from pulmonary tuberculosis where the member served in any theatre of war; (iv) from aggravation of a condition existing at enlistment where camp service exceeded six months.

Those who receive war pensions are also eligible for free medical and hospital treatment for their pensionable disabilities. With certain categories of pensioners, the eligibility for free treatment is widened to cover all disabilities. It is also possible for an ex-serviceman to qualify for free treatment for a disability without necessarily being granted a pension. The rates current after the 1968 Federal Budget are as follows:

(i) *Special Rate (TPI)*: paid to totally and permanently incapacitated exservicemen (including those blinded as a result of war service). The weekly rate is \$33.50 plus \$4.05 wife's allowance and \$1.3750 for each child under 16.

(ii) *Intermediate Rate*: paid where the incapacity prevents engagement in continuous employment. The rate is \$24.25 with dependant's pensions the same as for the special rate.

(iii) *General Rate*: paid to those who can still work, although their earning power may be reduced. The maximum (100 per cent) rate is \$12 weekly but pensions may be as low as 10 per cent of the maximum, according to disability. Dependant's allowances in respect of a pensioner receiving the 100 per cent rate are the same as for the special rate, or scaled down proportionately where he receives a lower percentage.

(iv) *War Widows' Pension*: paid to widows of ex-servicemen who died as a result of war service, and to their children under 16. The weekly rates are: widow, \$14.00; first child, \$5.40; second and each subsequent child, \$4.25. A domestic allowance of \$7.00 may be paid to a widow over 50 years, and to younger widows in special circumstances.

(v) *Medical Sustenance*: paid to raise the pension of an ex-serviceman to the 100 per cent rate while treatment for a war-caused disability prevents him from following his usual occupation. If undergoing in-patient treatment, or convalescing immediately afterwards, the ex-serviceman may receive an allowance sufficient to bring his pension up to the *Special Rate*.

(vi) *Special Compensation Allowance*: introduced after 1968 Budget; a payment varying from \$2.25 to \$3.00 per week is paid to certain pensioners in receipt of 75 to 100 per cent of the General Rate pension.

War Pension Payments

The following table shows, for Tasmania, the number of pensions in respect of ex-servicemen and their dependants, together with expenditure on war pensions:

War Pensions—Pensioners and Payments

| Year | Number of Pensions Current at 30 June | | | Expenditure During Year (c) | |
|---------|---------------------------------------|-----------------------------|-------------------------------|--------------------------------|-----------------|
| | Incapacitated Ex-Servicemen | Dependants of— | | | |
| | | Incapacitated Ex-Servicemen | Deceased Ex-Servicemen (a) | Total (b) | |
| 1961-62 | 8,537 | 18,095 | 1,766 | 28,398 | \$'000 4,988 |
| 1962-63 | 8,620 | 17,763 | 1,831 | 28,214 | 5,668 |
| 1963-64 | 8,659 | 17,366 | 1,879 | 27,913 | 6,158 |
| 1964-65 | 8,627 | 16,506 | 1,968 | 27,109 | 6,214 |
| 1965-66 | 8,623 | 15,831 | 1,984 | 26,446 | 6,919 |
| 1966-67 | 8,573 | 15,018 | 2,031 | 25,629 | 6,654 |

(a) Includes war widows' pensions.

(b) Includes miscellaneous pensions not specified under the 'ex-servicemen' details, e.g. Seamen's War Pensions and Allowances.

(c) Includes widows' allowances.

At 30 June 1967, the proportion of ex-servicemen in Tasmania receiving war pension in respect of service in the 1914-18 War was 17.7 per cent; the 1939-45 War, 80.8 per cent; the Korea and Malaya operations, 1.2 per cent, and other operations, 0.3 per cent.

Service Pensions*Eligibility and Rates*

Service and dependant's pensions may be granted to persons (or in respect of persons) who come within the following categories, and satisfy a means test: (i) men aged 60 or over who served in a theatre of war, or women 55 years and over who served abroad; (ii) men and women who are totally unemployable with similar service particulars; (iii) sufferers from pulmonary tuberculosis not qualifying for a war pension on this ground. The conditions governing the means test are the same as for old age pensions, described earlier in this chapter.

The weekly rates current after the 1968 Federal Budget are: maximum, single ex-serviceman, \$14.00; married, \$12.50; wife under 60 years, \$7.00 (at 60 years, the wife may qualify for \$12.50 old age pension). The rate for dependent children is \$2.50 for the first child and \$0.25 for each other child up to and including the fourth. If an ex-serviceman is receiving a service pension on the grounds of being unemployable, his service pension may be increased by \$2.50 a week in respect of each dependent child other than the first. A guardian's allowance of \$4.00 weekly is payable where the service pensioner has the care, custody and control of children, e.g. where he is a widower.

Service Pension Payments

The following table shows, for Tasmania, the number of service pensions in respect of ex-servicemen and their dependants, and expenditure on pension payments:

Service Pensions—Pensioners and Payments

| Year | Number of Pensions Current at 30 June | | | Expenditure During Year | |
|---------|---------------------------------------|----------------------|------------------------|-------------------------------|--|
| | Ex-Servicemen | Dependants of— | | | |
| | | Living Pensioners | Deceased Pensioners | | |
| 1961-62 | 1,581 | 870 | | 2,451 | |
| 1962-63 | 1,687 | 898 | | 2,585 | |
| 1963-64 | 1,739 | 777 | 144 | 2,660 | |
| 1964-65 | 1,737 | 776 | 145 | 2,658 | |
| 1965-66 | 1,709 | 827 | 101 | 2,637 | |
| 1966-67 | 1,694 | 833 | 111 | 2,638 | |

Soldiers' Children Education Scheme*Eligible Children*

Educational assistance is granted to ex-servicemen's children in particular circumstances: (i) if the parent has died from causes attributed to war service, or was receiving war pension for specific serious disabilities at the time of death; (ii) if the parent, as a result of war service, is blinded, totally and permanently incapacitated or receiving the special rate pension for pulmonary tuberculosis.

Benefits

For children under 12 years, the scheme pays the cost of school requisites and fees. At secondary level, fortnightly maximum payments are: under 14 years, \$3.80; 14 but under 16, \$5.75; 16 years and over, \$12.65 if both parents living and \$14.55 if only one parent living. At tertiary level, those living at

home may receive \$21.50 per fortnight and those living away from home, \$34.80. For tertiary and professional courses, students may receive grants to pay for text books and equipment, fees and fares. The means test used to determine whether the maximum shall be paid does not relate to the parents' income but takes into account grants the student is receiving from scholarships, cadetships, etc.

HEALTH

State Health Services—General

Organisation, Department of Health Services (1967)

The State Department of Health Services is under the jurisdiction of the Minister for Health, with the Director General of Health Services as the permanent head. The Headquarters of the Department controls three Divisions, each under a director, namely Public Health, Psychiatric Services and Tuberculosis. Four specialised services are also part of the Department, namely the State Health Laboratory under the control of the Director of Pathology; the Government Analyst and Chemist Laboratory, under the control of the Government Analyst; Geriatric Services; and Cardio-Vascular Services; each of the latter two services operates under a director. The balance of the Department's responsibilities are functions of Headquarters.

Legislation in 1967 provided for the establishment of a Mental Health Services Commission, thereby removing responsibility for psychiatric services from the Director General. The Commission began to operate as a separate authority from July 1968 and is directly responsible to the Minister.

Expenditure

Expenditure from Consolidated Revenue for a five-year period is as follows:

Department of Health Services—Expenditure from Consolidated Revenue (\$'000)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Administration, Head Office | 164 | 185 | 212 | 212 | 235 |
| Hospital and Medical Services— | | | | | |
| Administration .. . | 131 | 135 | 170 | 183 | 184 |
| Grants to Hospitals .. . | 4,227 | 4,546 | 5,233 | 5,842 | 6,390 |
| Medical Services—Country Districts .. . | 77 | 83 | 77 | 126 | 137 |
| District Nursing Service .. . | 160 | 163 | 161 | 168 | 184 |
| Dental Health Service .. . | 100 | 130 | 144 | 236 | 330 |
| State Laboratory—Pathology .. . | .. | (a) | 4 | 5 | 6 |
| National Fitness Section .. . | 27 | 30 | 38 | 42 | 44 |
| Nurses' Registration Board .. . | 3 | 4 | 4 | 4 | 4 |
| Government Analyst and Chemist .. . | 37 | 45 | 43 | 51 | 53 |
| St John's Park Hospital .. . | 718 | 783 | 847 | 944 | 1,052 |
| Public Health— | | | | | |
| Administration and Inspectors .. . | 124 | 121 | 149 | 148 | 159 |
| School Health Service .. . | 71 | 81 | 94 | 110 | 115 |
| Child Health Service .. . | 113 | 119 | 126 | 134 | 148 |
| Mothercraft Home .. . | 57 | 61 | 65 | 73 | 78 |
| Tuberculosis Division— | | | | | |
| Administration .. . | 136 | 143 | 155 | 157 | 168 |
| Chest Hospitals .. . | 297 | 305 | 305 | 295 | 313 |
| Psychiatric Services— | | | | | |
| Administration .. . | 77 | 84 | 106 | 112 | 111 |
| Mental Health Hospitals .. . | 1,216 | 1,331 | 1,503 | 1,689 | 1,903 |
| Miscellaneous Grants and Expenses .. . | 249 | 212 | 258 | 286 | (b) 322 |
| Total .. . | 7,984 | 8,561 | 9,694 | 10,816 | 11,937 |

(a) Less than \$500.

(b) Includes Royal Commission on fluoridation of water supplies (\$15,000).

Headquarters Division*General*

The responsibility of the Headquarters of the Department of Health Services includes: the public hospital services and the licensing of private hospitals and other medical establishments under the *Hospitals Act* 1918; the District Medical Service; the School Dental Service; the Tourist and District Nursing Service; legislation concerned with health and allied matters; the Nurses' Registration Board and the Dental Mechanics' Registration Board; some specialist medical services; the State Drug Advisory Committee; liaison with the Health Departments of other States and the Commonwealth (the Director General is a member of the National Health and Medical Research Council); liaison with professional, medical, dental and nursing associations. The Director General is the controlling authority under the Hospital Employees' Award, the Medical Officers' Award and the Nurses' (Public Hospitals) Award. Headquarters also controls and maintains Crown property occupied by the various sections of the Department and deals with the appointment and salaries of staff who are not officers of the Public Service.

School Dental Health Service

This service, available free to children attending school, aims to examine and treat every child each six months, but staff shortages have prevented this from happening in the past. At 30 June 1968, clinics were in use in Hobart and Launceston and surgeries were operating in 16 country towns. Mobile caravans were also in use in most country districts. An orthodontic service is based on Hobart, a mobile orthodontic clinic providing a State-wide therapeutic service.

Dental Nursing: Adopting the New Zealand system, Tasmania became the first Australian State to develop a School of Dental Nursing. Ten first-year and ten second-year State students are being trained, together with some students on behalf of the Commonwealth Government (these are to be employed in A.C.T. after graduation). The first State class graduated in January 1968 after a two-year course, and the graduates have been appointed to clinics. The School with a residential hostel attached is located in Hobart, has a principal and a matron, and will itself eventually treat 60 patients a day. It is expected that a total of approximately 30 dental nurses will work in the districts; a recognised dental nursing certificate will be needed for a nurse to be appointed to a field position.

Fluoridation

In 1964, Hobart became the first Australian capital city to add sodium fluoride to its water supply. Many municipal councils have arranged for its addition, while others supply fluoride tablets to mothers wanting them for their children; fluoride is not administered in all water supplies in Tasmania. The whole question of fluoridation was considered by a Royal Commission which reported favourably in 1968 and recommended its extension throughout the State.

District Medical Service

In 1937 the Government undertook to help the more remote municipalities to obtain medical services; at present, participating municipalities levy a rate under the *Local Government Act* 1962 as amended, and meet between one half and one third of the cost of the scheme.

The scheme provides a general practitioner service free to all residents of the municipality for consultations and home visits. A surgery is usually attached to the district medical officer's house, and branch surgeries are

sometimes located elsewhere within the district. Attention out-of-hours is charged for in accordance with a set scale, as are insurance medical examinations, compensation treatment and attention to visitors to the State.

As well as general practice, activities include the dispensing of drugs if no chemist is available; duties as Medical Officer of Health (under the *Public Health Act*) if a municipal council requests it; in some cases, duty as superintendent, if there is a district hospital within the municipality; attention to district nursing centres; and post mortem examinations.

Nursing

Nursing training is under the control of the Nurses' Registration Board. Of the State's nursing training schools, eight are general, six midwifery, two psychiatric, two child health, one tuberculosis and one geriatric.

Tourist Nursing Service

This service is based on the fact that trained nursing sisters from outside Tasmania like to visit the State and have a working holiday. These 'tourist nurses' are employed for short periods in hospitals or district nursing centres. Not more than two months' service at any one time is required of a sister in any one place but she may stay longer.

State Drug Advisory Committee

This advises on the nature, strength and variety of drugs to be supplied to public hospitals by the medical store of the Supply and Tender Department. It is not concerned with administration but helps the store to avoid stocking drugs with different brands but similar properties, and stocking drugs not likely to be required.

General

Division of Public Health

The Division of Public Health has responsibility for the preventive medical services of the State. The Director is responsible for the operation of the *Public Health Act 1957* as amended and the control of medical officers of health and other health officers employed by the Department and municipalities throughout the State. A major responsibility is public immunisation programmes, conducted through the municipalities; preparations distributed include the Salk and Sabin anti-polioimmunisation vaccine and the Triple Antigen vaccine (against whooping cough, tetanus and diphtheria). The Division is responsible for the Nutrition Advisory Service; industrial hygiene; environmental sanitation; pure food and pure drug quality control; the public health aspects of the building regulations. Other major functions are discussed separately in the following sections.

Child Health Service

Child health nurses attached to child health centres advise mothers on the care and upbringing of their babies and younger children. In 1967 there were 95 centres and 12 travelling units. Voluntary child health committees working for the centres raise money for furnishings and equipment in buildings erected by the Department. The functions of the centres include examination of babies, maintenance of individual histories, and advice on diets, feeding techniques and hygiene. Phenylketonuria tests are carried out for the detection of phenylketonuria, a rare complaint which results in mental deficiency if not treated in infancy. New-born babies are visited in their homes by the sisters; details of births and addresses are supplied by the hospitals.

The Mothercraft Home: This Home, located in Hobart, provides training for qualified nursing sisters who want to gain child health nursing certificates, and for women who want to become mothercraft nurses. It accommodates

children under two years who need care or who cannot be looked after at home, and mothers learning to look after children or having feeding problems. When space is available, children under two years can be boarded in the Home for short periods.

School Health Service

This is available free to children under 16 years. The aim is for an annual inspection at each school by a medical officer, but staff shortages have limited this to examinations at school entry, next at 10 or 11, and finally at 14 or 15 years. Doctors particularly look for conditions likely to affect a child in a school situation. Parents can make appointments for their children to be examined at centres in Hobart, Launceston, Devonport and Burnie.

School nursing sisters visit schools regularly to supervise the health and hygiene of pupils. They maintain medical records, perform cleanliness inspections, test sight and hearing, assist at medical examinations and follow-up defects notified. They also organise immunisation sessions in their schools.

Infectious Diseases

Certain diseases are notifiable under the *Public Health Act*, the aim being to prevent or check their spread. New regulations (November 1967) deleted scarlet fever, rubella and infantile diarrhoea from the list.

Special conditions apply to venereal diseases. Persons suffering from them must not marry until cured, or engage in the manufacture or distribution of foodstuffs, and are liable to arrest and detention if failing to continue treatment until cured.

Quarantine provisions and tuberculosis are dealt with in later sections.

The following table shows the incidence of infectious diseases in Tasmania for a five-year period:

Infectious Diseases Notified to Department of Health Services
Number of Cases

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------------|---------|---------|---------|---------|---------|
| Ankylostomiasis | .. | .. | .. | .. | 1 |
| Rheumatic Fever | .. | .. | 13 | 33 | 27 |
| Nephritis | .. | .. | 2 | 2 | 12 |
| Bacillary Dysentery | .. | .. | 11 | 9 | 1 |
| Infantile Diarrhoea and Enteritis | .. | .. | 16 | 15 | 21 |
| Diphtheria | .. | .. | .. | 3 | 1 |
| Meningitis | .. | .. | 20 | 8 | 4 |
| Glandular Fever | .. | .. | 34 | 11 | .. |
| Hydatids | .. | .. | 27 | 16 | 7 |
| Infectious Hepatitis | .. | .. | 608 | 997 | 293 |
| Rubella | .. | .. | 20 | 28 | 107 |
| Scarlet Fever | .. | .. | 46 | 149 | 867 |
| Typhoid Fever (including Paratyphoid) | .. | 1 | 3 | 6 | 3 |
| Tuberculosis | .. | .. | 111 | 105 | 81 |
| Poliomyelitis | .. | .. | .. | .. | 3 |
| Malaria | .. | .. | .. | 1 | .. |
| Encephalitis | .. | .. | .. | 1 | .. |
| Brucellosis | .. | .. | .. | 1 | 1 |
| Filariasis | .. | .. | 1 | .. | .. |
| Puerperal Fever | .. | .. | 1 | .. | .. |
| Puerperal Pyrexia | .. | .. | .. | .. | .. |
| Ophthalmia Neonatorum | .. | .. | .. | .. | .. |
| Gonorrhoea | .. | .. | 230 | 173 | 200 |
| Syphilis | .. | .. | 5 | 10 | 7 |
| Total | .. | .. | 1,146 | 1,562 | 1,653 |
| | | | | 2,183 | 1,052 |

Health Education

The Health Education Council is composed of representatives of the Division of Public Health, the Education Department, the Mental Health Services Commission, the Adult Education Board and several other interested persons. The Council's aim is the education of the public by distribution of information on health matters; specific projects being considered are: (i) a survey of accidents in schools; (ii) distribution of personal medical record cards (to be carried by citizens and giving vital information such as blood group, allergies, etc.).

National Fitness Section

This is concerned with putting into effect the Tasmanian National Fitness Council's policy, which is the promotion of community health and personal fitness; this involves the promotion and extension of physical recreation and amateur sport, fitness and training programmes, co-ordination of youth work, and assistance to existing youth and recreation groups. The main cost is met by the State Government (\$44,123 in 1966-67) and a small grant is made by the Commonwealth Government. Close contact is maintained with local government authorities and community organisations interested in the various aspects of community fitness and recreation. Assistance is given in the development of indoor recreation centres, camping facilities and programmes, amateur sports, outdoor activities such as canoeing, mountain and bush expeditions and adventure activities generally. Sports coaching classes are conducted for a wide range of age groups. Executive services are provided for the Duke of Edinburgh Award Scheme and for the Youth Council of Tasmania.

*General***Division of Psychiatric Services**

The Division controls the major psychiatric rehabilitation hospital, Lachlan Park (re-named Royal Derwent in 1968) and the associated Millbrook Rise hospital, both at New Norfolk. It provides regional clinical psychiatric facilities, the specialists employed including social workers. Some of these services operate at the general hospitals whilst others, such as the child psychiatric unit and the alcoholic rehabilitation service, are established separately. Day hospital facilities are also available.

Legislation in 1967 provided for the establishment of a Mental Health Services Commission but this did not become fully operational until the second part of 1968. Under the Act, the new authority comprises three Commissioners designated: (i) Medical; (ii) Administrative; (iii) Clinical. It is also proposed that Lachlan Park Hospital will be administered by a board of management in the same way as other hospitals in the State. Present thinking is based on the theory that a mental institution should be a true hospital where the majority of patients attend voluntarily; there should be a high turnover of short-stay patients who are given intensive medical treatment and who return home with health restored. Application of this principle has had the effect of reducing the number of patients compulsorily detained from about 75 per cent of the total psychiatric hospital patient population to about 25 per cent.

Lachlan Park Hospital

In 1966-67, 472 new patients were admitted to the Hospital and a further 468 re-admitted. The following table shows the number of patients admitted and discharged, or who died:

*Social Conditions***Lachlan Park Hospital (a)****Number of Patients Admitted and Discharged, and Deaths, 1966-67**

| Particulars | Males | Females | Total |
|--|-------|---------|-------|
| Patients at Beginning of Year | 426 | 455 | 881 |
| Patients Admitted— | | | |
| Admitted, First Time | 259 | 213 | 472 |
| Re-admitted | 258 | 210 | 468 |
| Returned from Leave | 38 | 25 | 63 |
| Total | 555 | 448 | 1,003 |
| Patients— | | | |
| Discharged from Hospital | 448 | 380 | 828 |
| Proceeded on Leave | 52 | 32 | 84 |
| Died | 28 | 44 | 72 |
| Total | 528 | 456 | 984 |
| Patients at End of Year | 453 | 447 | 900 |

(a) Re-named 'Royal Derwent' in 1968.

The following table shows the diagnosis of mental illness of patients in Lachlan Park hospital:

**Lachlan Park Hospital
Diagnosis of Mental Disorder of Patients, 1966-67**

| Mental Disorder | Patients Admitted (a) 1966-67 | | | Patients at 30 June 1967 | | |
|--|----------------------------------|---------|-------|--------------------------|---------|-------|
| | Males | Females | Total | Males | Females | Total |
| Senile and Pre-Senile Dementia .. | 19 | 44 | 63 | 14 | 65 | 79 |
| Alcoholic Psychosis | 28 | 6 | 34 | 16 | 2 | 18 |
| Psychosis with Intracranial Infection | .. | 1 | 1 | 1 | 2 | 3 |
| Psychosis with other Cerebral Condition | 10 | 1 | 11 | 16 | 15 | 31 |
| Psychosis with other Physical Condition | 2 | 3 | 5 | .. | .. | .. |
| Schizophrenia | 106 | 106 | 212 | 168 | 89 | 257 |
| Affective Psychoses | 27 | 51 | 78 | 20 | 31 | 51 |
| Paranoid States | 6 | 3 | 9 | 15 | 11 | 26 |
| Other Psychoses | 2 | 2 | 4 | .. | .. | .. |
| Unspecified Psychosis | .. | .. | .. | 1 | .. | 1 |
| Neuroses | 23 | 60 | 83 | 2 | 8 | 10 |
| Personality Disorders | 36 | 24 | 60 | 23 | 12 | 35 |
| Sexual Deviation | 5 | .. | 5 | 2 | .. | 2 |
| Alcoholism | 153 | 27 | 180 | 16 | 3 | 19 |
| Drug Dependence | 10 | 13 | 23 | 3 | 3 | 6 |
| Transient Situational Disturbances .. | 1 | 1 | 2 | 2 | .. | 2 |
| Behaviour Disorders of Childhood .. | 8 | 3 | 11 | 3 | .. | 3 |
| Mental Disorder not Specified as Psychotic Associated with Physical Conditions | 7 | 5 | 12 | 6 | 7 | 13 |
| Mental Retardation—Borderline .. | 4 | 8 | 12 | 7 | 6 | 13 |
| Mild .. | 17 | 8 | 25 | 20 | 13 | 33 |
| Moderate .. | 19 | 29 | 48 | 46 | 53 | 99 |
| Severe .. | 18 | 19 | 37 | 42 | 84 | 126 |
| Profound .. | 9 | 6 | 15 | 19 | 34 | 53 |
| Unspecified .. | 7 | 3 | 10 | 11 | 9 | 20 |
| Total | 517 | 423 | 940 | 453 | 447 | 900 |

(a) Excludes those returned from leave.

Other Institutions

Millbrook Rise is a small neurosis hospital at New Norfolk for voluntary patients. It charges fees and provides intensive psychiatric and nursing treatment for patients with severe neuroses and early psychoses. In 1966-67, there were 148 admissions, the principal mental disorders being: neuroses, 87; affective psychoses, 28; schizophrenia, 15; personality disorders, 15.

'Karingal' at St John's Park, New Town, houses some mentally deficient patients under the care of the Guardianship Board, constituted under the *Mental Health Act 1963*. (This Board has replaced the former Mental Deficiency Board.)

Extra-Mural Psychiatric Services: Psychiatrists provide consultant services to the general and district hospitals of the State. Psychiatric social workers and welfare officers supervise mentally defective patients and give after-care to people discharged from psychiatric hospitals.

Psychiatrists based on Launceston and Wynyard provide regional services to the north-west and north-east of the State. A new 16-bed acute psychiatric unit was opened in September 1967 as part of the Spencer Hospital at Wynyard.

Division of Tuberculosis

The Division is concerned with diagnosis, treatment and after-care. Under an arrangement with the Commonwealth, the Tasmanian Government conducts a campaign against T.B. The State is reimbursed by the Commonwealth Government for approved capital and maintenance expenditure, in carrying out the physical work of the campaign.

An allowance is paid by the Commonwealth Department of Social Services to T.B. sufferers to encourage them to give up work, to minimise the spread of the disease, and to promote better treatment. The allowance is subject to a means test on income (but not on property) and provides \$14 a week for a single person in hospital and \$17.25 weekly whilst at home; married sufferers at home or in hospital are paid \$28.75 per week plus \$2.50 for each dependent child.

Tubercular patients are treated at the Tasmanian Chest Hospital (New Town) and the Northern Chest Hospital (Evandale). The X-ray campaign has led to a reduction in demand for in-patient treatment and to generally shorter periods in hospital.

The following table shows the confirmed diagnosis of tuberculosis cases notified in Tasmania over a five-year period.

**New Cases Notified to Tuberculosis Division
Classification by Diagnosis and by Sex**

| Particulars | | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|------------------------------|----------|---------|---------|---------|---------|---------|
| Pulmonary | .. .. .. | Males | 64 | 61 | 48 | 34 |
| | | Females | 27 | 18 | 18 | 23 |
| Tuberculous Pleural Effusion | .. | Males | 6 | 5 | 1 | .. |
| | | Females | 1 | 3 | 2 | 1 |
| Primary Tuberculosis | .. .. | Males | 2 | 1 | 1 | .. |
| | | Females | 1 | 2 | .. | 1 |
| Non-Pulmonary Cases | .. .. | Males | 8 | 5 | 5 | 1 |
| | | Females | 2 | 10 | 6 | 7 |
| All New Cases | | Males | 80 | 72 | 55 | 35 |
| | | Females | 31 | 33 | 26 | 31 |
| Persons | | | 111 | 105 | 81 | 66 |
| | | | | | | 58 |

State Controlled Hospitals*General*

In Tasmania, there are private hospitals and also hospitals for which the State Government accepts the major financial responsibility; in the case of the latter group, control is either direct or exercised through hospital boards. (Each board consists of seven members of whom five are appointed by the Minister for Health.)

Institutions controlled by the State (either directly or through boards) include four general hospitals, 16 district hospitals, 12 district nursing centres with bed accommodation, two mental hospitals, two maternity hospitals, two chest hospitals and three hospitals for the aged. (The Department of Health Services directly administers the chest hospitals, mental hospitals, district nursing centres and one hospital for the aged.) These institutions could all legitimately be described as 'public'. However, in the tables in this section, the term 'public' is applied only to the general and district hospitals, the other types of institution being specified separately.

General Hospitals (Public)

Hospitals providing all facilities and specialised treatment are the Royal Hobart, Launceston General, Mersey General (at Latrobe) and North Western General (at Burnie). The Queen Alexandra (Hobart) and the Queen Victoria (Launceston) are obstetric and gynaecological hospitals.

Specialist treatment is available at general hospitals in obstetrics, gynaecology, orthopaedics, urogenital surgery, plastic and reconstructive surgery, neuro-surgery and neurology, radiology, pathology, radiotherapy, psychiatry and ophthalmology; skin diseases and venereal diseases are also treated and clinics operate in thoracic medicine and surgery. An emergency obstetrical service, with specialists based on Hobart and Launceston, provides a free service to the smaller public hospitals, district nursing centres, and district medical officers outside the two cities.

The Lady Clark and Peacock Homes and Clare House are annexes of the Royal Hobart Hospital, the first two admitting patients for convalescence and physiotherapy as an extension of treatment, and the last treating nervous diseases and alcoholism.

Fees

The daily general ward fees charged in the State-controlled hospitals are not much lower than those in private hospitals. However, the former fees are all-inclusive, (i.e. covering medical attendance, surgery, pathology, etc.) while the latter cover only accommodation and general nursing. Under the 'personal patient' scheme, a patient in the Hobart and Launceston general hospitals may have his own doctor, if he is an honorary doctor at the hospital, for the payment of an additional fee. Voluntary insurance with hospital fund organisations and Commonwealth hospital benefits enable most patients to meet the fees charged.

District Hospitals (Public)

These do not provide the full range of services available in the general hospitals, and do not have resident medical officers. They are located at Beaconsfield, Campbell Town, Currie, Franklin, Longford, New Norfolk, Ouse, Queenstown, Rosebery, Scottsdale, Smithton, St Marys, Ulverstone, Whitemark, Wynyard and Zeehan.

Hospitals for Aged and Invalids

The State Government administers three hospitals caring for the aged and for invalids. In the table that follows, the average daily number of inmates is dissected between 'general' and 'hospital'; 'general' refers to inmates who are not receiving treatment in the hospital sections of the hospitals.

Government Hospitals for the Aged, 1966-67

| Home | Average Daily Number of Inmates | | | Beds Available | | |
|----------------------|---------------------------------|------------------------|-------|------------------|------------------------|-------|
| | For General Care | For Hospital Treatment | Total | For General Care | For Hospital Treatment | Total |
| Cosgrove Park (a) .. | 100 | 134 | 234 | 140 | 134 | 274 |
| St John's Park .. | 153 | 282 | 435 | 236 | 313 | 549 |
| Spencer (b) .. | 10 | 24 | 34 | 10 | 25 | 35 |
| Total .. | 263 | 440 | 703 | 386 | 472 | 858 |

(a) Cosgrove Park is administered as part of the Launceston General Hospital.

(b) This is a geriatric wing of the Spencer Hospital, Wynyard.

Finances of State Controlled Hospitals

The following table gives a financial summary of the operation of State controlled hospitals and hospitals for the aged ('public' hospitals in the table include general and district hospitals):

**State Controlled Hospitals and Hospitals for the Aged—Receipts and Payments (a)
1966-67
(\$'000)**

| Particulars | Hospitals (excluding Mental) | | | | Mental Hospitals | Hospitals for the Aged |
|--|------------------------------|-------|---------------|-------|------------------|------------------------|
| | Public (b) | Chest | Maternity (c) | Total | | |
| Receipts— | | | | | | |
| Government Aid— | | | | | | |
| State Government | 5,661 | 312 | 385 | 6,358 | 1,770 | 1,037 |
| Commonwealth Hospital Benefits | 593 | .. | 5 | 598 | .. | 318 |
| Fees.. | 2,191 | 2 | 385 | 2,580 | 43 | 126 |
| Donations and Other | 28 | 2 | 1 | 31 | 8 | 8 |
| Total .. | 8,474 | 316 | 776 | 9,566 | 1,821 | 1,489 |
| Payments— | | | | | | |
| Salaries and Wages | 5,584 | 243 | 499 | 6,326 | 1,240 | 1,064 |
| Repairs, Maintenance and Provisions .. | 2,341 | 67 | 242 | 2,650 | 394 | 390 |
| Miscellaneous .. | 520 | 6 | 32 | 558 | 187 | 35 |
| Total .. | 8,444 | 316 | 773 | 9,533 | 1,821 | 1,489 |

(a) Excludes expenditure from State Loan Fund.

(b) Includes maternity wards in public hospitals.

(c) Excludes maternity wards in public hospitals.

Staff and Patients in State Controlled Hospitals

The following table gives a summary of the main statistics relating to patients and staff in State controlled hospitals and hospitals for the aged.

State Controlled Hospitals and Hospitals for the Aged, 1966-67
Staff, Accommodation and In-Patients

| Particulars | Hospitals (excluding Mental) | | | | Mental Hospitals | Hospitals for the Aged |
|--|------------------------------|-------|-----------------------|-----------|------------------|------------------------|
| | Public (a) | Chest | Mater- nity (b) | Total | | |
| Hospitals and Homes .. (no.) | 19 | 2 | 2 | 23 | 1 | 3 |
| Nursing Staff .. | 43 | 8 | .. | 51 | 149 | 123 |
| (Males) | | | | | | |
| (Females) | 1,341 | 28 | 165 | 1,534 | 131 | 156 |
| Beds Available (Patients) .. (no.) | 1,768 | 105 | 210 | 2,083 | 900 | 858 |
| In-Patients— | | | | | | |
| Admissions During Year (Males) | 15,626 | 78 | .. | 15,704 | 555 | 240 |
| (Females) | 18,980 | 38 | 4,126 | 23,144 | 448 | 165 |
| Daily Average Number of Patients During Year (Males) | 531 | 21 | .. | 552 | 444 | 373 |
| (Females) | 571 | 10 | 110 | 691 | 447 | 330 |
| (Persons) | 1,102 | 31 | 110 | 1,243 | 891 | 703 |
| In-Patient Costs— | | | | | | |
| Total .. .. .(\$'000) | (c) 7,521 | 316 | (c) 769 | (c) 8,603 | 1,821 | 1,489 |
| Daily Average Per Patient (\$) | 18.69 | 27.15 | 19.23 | 18.96 | 5.60 | 5.80 |

(a) Includes maternity wards in public hospitals.

(b) Excludes maternity wards in public hospitals.

(c) The figure in the previous receipts and payments table is greater since it includes outpatients costs.

District Nursing Centres

These are operated by members of the Department's District Nursing Service. They provide general and maternity nursing facilities for country areas which do not have easily accessible hospitals. Most are visited regularly by doctors. District nursing centres with beds are located at Alonnah (Bruny Island), Cape Barren Island, Cygnet, Dover, George Town, Koonya, Oatlands, St Helens, Sheffield, Swansea, Triabunna and Westbury, those without beds at Avoca, Dunalley, Gladstone, Grassy (King Island), Lilydale, Mole Creek, Redpa, Ringarooma, Rossarden, Storys Creek and Waratah.

The following table gives a summary of the work performed by the Centres over a five-year period:

District Nursing Service—Operating Statistics

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|------------------------------|---------|---------|---------|---------|---------|
| Number of Centres .. | 25 | 25 | 25 | 25 | 24 |
| Beds Available in Centres .. | 50 | 49 | 49 | 49 | 53 |
| Visits to Centres | 34,330 | 37,205 | 39,406 | 40,749 | 39,868 |
| Visits to Patients | 9,568 | 9,684 | 12,626 | 13,257 | 11,747 |
| In-Patient Bed-Days | 4,333 | 3,698 | 2,923 | 2,856 | 3,105 |
| Births | 327 | 302 | 272 | 257 | 259 |
| Child Health Visits | 10,004 | 9,707 | 9,892 | 7,479 | 8,543 |
| School Visits | 65 | 88 | 110 | 116 | 88 |

Private Hospitals

These are operated by church and other private organisations. They are licensed to receive surgical, medical, maternity or psychiatric cases. Of the seven medical-surgical private hospitals, Calvary and St John's (Hobart) and St Luke's and St Vincent's (Launceston) are the largest.

Nursing homes, operated by private bodies, are institutions which do not conform to private hospital specifications with regard to equipment, construction and staffing, as laid down under the *Hospitals Act*. They are licensed to treat general cases within limits as specified in the licence. Rest homes are licensed usually to admit old people who require minimal medical care. At 30 June 1967, there were 33 private institutions concerned with aged people who were ambulant, convalescent, or suffering from geriatric illnesses. Nazareth House (St Leonards), St Ann's Rest Home (Hobart) and Meercroft Home (Devonport) are the biggest of these, 18 of which have accommodation for 20 or more patients. Two other private hospitals cater for incurable or chronic illnesses, two for general convalescence and two for retarded children.

State Health Laboratory

The State Health Laboratory is under the control of the Director of Pathology. Apart from providing certain pathological services to the Royal Hobart Hospital, other hospitals and to doctors, the laboratory provides special bacteriological and cytological services.

The Laboratory is located at the Royal Hobart Hospital; prior to 1965 special tests had to be done in Melbourne, but equipment installed in that year now enables all work to be done in Tasmania. Magnifications of 100,000 can be gained with the electron microscope and photographs in colour taken of the magnified images; this is particularly useful in medical teaching and in diagnosis. Specimens from suspected T.B. sufferers, discovered in the compulsory chest X-ray programme, are examined and uterine and other cancers can be discovered by the Papanicolaou smear test. Tasmania was the first Australian State to introduce this test on a large scale; early diagnosis by this simple and effective method, particularly in women who show no symptoms, usually makes possible the cure of this type of cancer. Mass screening of newborn babies is done to correct error of inborn metabolism, especially phenylketonuria. Other work includes analysis of food, water and milk samples.

Government Analyst and Chemist Laboratory

This laboratory analyses a wide variety of foods, drugs and other substances and undertakes work for government departments and the public. Its work includes food and agricultural chemistry, forensic chemistry and toxicology, analyses for industrial hygiene purposes, water and corrosion problems, and other matters.

Other Health Matters

Children's Health Institutions

These are medical institutions run by the State or subsidised by public funds. They provide treatment and supervision along with general education. The Sight Saving School, School for the Deaf, School for the Blind, Talire (for retarded children) and Wingfield (for orthopaedic patients) are government institutions for children with particular defects.

Ambulance Services

The Ambulance Commission of Tasmania co-ordinates services throughout the State and is responsible to the Minister for seeing they operate effectively. Ambulance Boards, centred on Hobart, Launceston, Devonport and Burnie, control services in the adjacent municipalities. A few municipalities, however, operate services outside the Ambulance Board. The total Government grant to ambulance services, both under Board and independent control, was \$72,000 in 1966-67.

Ambulance services under control of the four Boards provide free transport for ratepayers, occupiers and pensioners. In addition to receiving Government subsidies, their income is derived from fees (payable by visitors) and municipal grants (in 1966-67, from a rate of 0.208 cents in the \$).

The Ambulance Commission has adopted the training standards of the Victorian Ambulance Officers' Training School.

Royal Flying Doctor Service

This was established in Tasmania in 1960 and has as its purpose the provision of medical and dental services to persons in isolated areas. If the illness or injury is serious, a doctor flies to the patient and if necessary brings him back to a hospital. The ambulance services receive the calls, make arrangements to charter aircraft and supply medical equipment. The Commonwealth and State Governments make an annual grant towards operational expenses.

Blood Transfusion Service

Prior to 1954, the Australian Red Cross Society, which operates the Service, was assisted only by the State Government; since then, a grant equal to 30 per cent of operating expenses has been made by the Commonwealth Government and 60 per cent by the State. The combined grant in 1966-67 was \$46,000.

Municipal Health Functions

Municipal councils and city corporations possess wide powers and responsibilities in public health. They organise triple antigen immunisation campaigns against diphtheria, whooping cough and tetanus, and vaccinations against poliomyelitis and smallpox. (These are available without charge to children under 17 years.) They control the condemnation of sub-standard dwellings, the effective disposal of sewerage and drainage, the provision of garbage and night soil services, the construction of reservoirs and the reticulation of water. A Medical Officer of Health, often appointed by two councils, is responsible, among other things, for enquiring into the causes, origins and distribution of diseases; for investigating influences affecting the public health of the district; for directing and supervising the municipal health inspectors in the execution of the *Public Health Act*, for inspection of local certificates of notification of infectious disease and direction of control of such disease; for reporting the existence of any nuisance and inspection of any animal, carcass, provisions or food for sale for human consumption; and for inspecting any premises where milk or milk products are produced or stored and for reporting on the health of inmates or animals on the premises.

Commonwealth Department of Health

General

The Department is concerned in Tasmania with the maintenance of a quarantine service involving supervision of persons, animals, plants and goods from overseas; the provision of hospital, medical and pharmaceutical benefits; the payment of grants for free milk to school children; the pensioner medical service; tuberculosis allowances; home nursing, mental institution and other subsidies; the control and maintenance of health laboratories at Hobart and Launceston; the Acoustic Laboratory in Hobart; co-operation with the State Department of Health Services, in planning and taking measures to improve public health, including the anti-tuberculosis and anti-poliomyelitis campaigns, and National Fitness; the conduct of certain medical examinations; and the supervision of radio and television advertising and talks on medical matters.

Commonwealth National Health Payments

The following table shows the total Commonwealth payments for health benefits and services in Tasmania:

**Commonwealth National Health Payments (a)
(\$'000)**

| Benefit or Service | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|---------|
| Hospital and Nursing Home Benefits | 1,301 | 1,321 | 1,703 | 1,811 | 1,991 | 2,050 |
| Medical Benefits | 578 | 634 | 686 | 1,000 | 1,140 | 1,195 |
| Free Milk Scheme | 342 | 376 | 391 | 380 | 398 | 442 |
| Medical Benefits for Pensioners | 231 | 234 | 253 | 256 | 386 | 406 |
| Pharmaceutical Benefits | 1,091 | 1,454 | 1,234 | 1,706 | 2,098 | 2,071 |
| Pharmaceutical Benefits for Pensioners | 451 | 506 | 527 | 578 | 637 | 802 |
| Tuberculosis Campaign (b) | 462 | 442 | 442 | 437 | 422 | 404 |
| Miscellaneous | 55 | 56 | 65 | 66 | 82 | 104 |
| Total | 4,510 | 5,023 | 5,301 | 6,235 | 7,154 | 7,474 |

(a) Payments from National Welfare Fund and minor items of expenditure from Consolidated Revenue Fund.

(b) Includes allowances to persons and reimbursements to State Government for approved expenditure.

Pensioner Medical Service

Free general practitioner medical treatment is available for most age, invalid, widow and service pensioners and their dependants (the exclusion relates to those admitted to pension by liberalisation of the means test in April 1967). However, no exclusion is made in respect to free pharmaceutical benefits and free in-patient treatment at public hospitals. Entitlement cards for these benefits are issued by the Social Services Department (or by the Repatriation Department in respect of service pensioners).

Commonwealth Acoustic Laboratory

The main function of the Laboratory is the provision and maintenance of hearing aids, without charge, to deaf school and pre-school children, and to those whose hearing loss was discovered after leaving school, but who are still under 21 years of age. It also provides and maintains hearing aids on behalf of the Repatriation and other Commonwealth departments and assists the Education Department in measuring deafness by providing and maintaining portable audiometers. A 1967 amendment to the Federal *National Health Act* provided that the laboratory should supply pensioners with hearing aids on hire (for a single payment of \$10) and give the necessary technical services for fitting, re-adjusting, maintaining, etc.

Quarantine

Quarantine, as administered by the Commonwealth, guards against the importation *from overseas* of human, animal and plant infection. The administration of safeguards against infection from *interstate travel and trade* is left to the States unless Commonwealth action is necessary for the protection of a State.

National Health Benefits

General: A basic principle in the provision of medical and hospital benefits is Commonwealth support for voluntary insurance against the costs involved. Registered health insurance organisations collect contributions from members and refund a proportion of hospital or doctors' charges. They also act as paying agents for Commonwealth medical and hospital benefits, non-con-

tributors to organisations receiving from the Commonwealth a reduced rate of hospital benefit and no medical benefit. Membership may be had in, and benefits received from, more than one organisation, but Commonwealth benefit is paid only once in respect of each claim.

A Special Account system provides an assured rate of benefit to contributors who would otherwise have been excluded because of organisations' rules relating to pre-existing ailments, chronic illnesses and maximum organisation benefits; payments made by organisations under this provision are re-imbursed by the Commonwealth.

Medical Benefits: These benefits are given for medical services detailed in the Schedule to the Commonwealth *National Health Act*. Combined Commonwealth and organisation benefits must not exceed 90 per cent of the fee charged for the service. For the most common form of service, consultation at a general practitioner's surgery, a contributor receives a Commonwealth benefit of 80 cents and, in Tasmania, an organisation benefit as high as \$1 (organisation benefits are not uniform).

Hospital Benefits: These benefits are paid for all patients by the Commonwealth at a minimum rate of \$0.80 a day, but if a person contributes to an organisation, the Commonwealth benefit increases to \$2. The highest combined organisation and Commonwealth benefit in Tasmania is \$15.50 a day (organisation benefits are not uniform) and the maximum rate of family contribution is \$1.15 a week.

Nursing Home Benefits: The Commonwealth pays a benefit of \$2 per day direct to the homes for each patient and a further \$3 a day for patients classified as requiring intensive care. The institutions need to be approved as nursing homes under the *National Health Act*. Patients do not have to be insured with a hospital benefits organisation and there is no time limit on the payment of benefits.

Handicapped Children's Benefit: A benefit of \$1.50 per day is paid for each handicapped child (to 16 years) in approved institutions.

Hospital and Medical Benefit Payments: Commonwealth hospital benefit payments are made on a hospital-bed-day basis as follows: insured patients, \$2; uninsured, \$0.80; pensioner patients, \$5; and nursing home patients, \$2. The following tables show payments by the Commonwealth, and also by the health insurance organisations (referred to as 'fund benefits') in Tasmania, together with details of the number of such organisations and their membership:

Hospital Insurance: Members and Benefits

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-----------------------------|----------|---------|---------|---------|---------|
| At 30 June— | | | | | |
| Registered Organisations .. | no. 10 | no. 10 | no. 10 | no. 10 | no. 10 |
| Members ('000) | 108 | 116 | 114 | 120 | 114 |
| \$'000 | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Benefits Paid— | | | | | |
| Commonwealth Benefits— | | | | | |
| Insured Patients (a) .. | n.a. 657 | 657 | 677 | 670 | 670 |
| Uninsured Patients (b) .. | n.a. 58 | 58 | 50 | 50 | 46 |
| Pensioner Patients (b) .. | n.a. 376 | 376 | 420 | 515 | 572 |
| Nursing Home Patients (b) | n.a. 612 | 612 | 664 | 756 | 761 |
| Total | 1,321 | 1,703 | 1,811 | 1,991 | 2,050 |
| Fund Benefits | 1,370 | 1,492 | 1,854 | 2,087 | 2,290 |

(a) Includes Special Account deficits.

(b) Paid direct to hospitals by Commonwealth.

Medical Insurance: Members and Benefits

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|
| At 30 June— | | | | | |
| Registered Organisations .. | no. 10 | no. 10 | no. 10 | no. 10 | no. 10 |
| Members .. ('000) | 100 | 107 | 108 | 114 | 110 |
| Medical Services During Year ('000) | 662 \$'000 | 719 \$'000 | 771 \$'000 | 835 \$'000 | 818 \$'000 |
| Cost of Medical Services Paid By— | | | | | |
| Commonwealth Benefits .. | 634 | 686 | 1,000 | 1,140 | 1,195 |
| Fund Benefits | 998 | 1,082 | 1,150 | 1,246 | 1,336 |

Pharmaceutical Benefits: Under this scheme, drugs and medicines for patients, who are required to pay a flat charge of 50 cents, can be prescribed by a medical practitioner or by a hospital. Not all drugs and medicines can be supplied under this scheme, but the Health Department's list of approved pharmaceutical preparations is extensive.

Commonwealth-Assisted Health Organisations*National Heart Foundation of Australia*

This was established to promote research in cardiovascular disease, to rehabilitate heart sufferers and to foster the dissemination of information about heart diseases. The State Division deals especially with rehabilitation and education. The State Government recognised the importance of this work by creating a Cardio-Vascular Services section within its own Department of Health Services in 1967.

Lady Gowrie Child Centre

This pre-school demonstration centre in Hobart was established by the Commonwealth in 1940. Its specialised function is demonstration and research and its programme is carried out under the supervision of the Federal Pre-School Officer in Canberra. It is concerned with a study of the factors promoting or retarding physical and mental health in young children and in demonstrating an educational health programme based on the developing needs of children aged three to six years. The Centre is used for observation by students of medicine, psychology, education, domestic science and nursing.

Other Organisations

Other organisations associated with public health and receiving Commonwealth grants are the Red Cross Blood Transfusion Service, the Royal Flying Doctor Service and the Tasmanian National Fitness Council; these have been dealt with in an earlier section.

LAW, ORDER AND PUBLIC SAFETY**Law in Tasmania***History*

The origin and evolution of Tasmanian law, and the origin of the various courts, are described in the 1967 *Year Book*.

Juries

Tasmanian legislation regulating juries seems to have been first passed in 1830 although, for many years before that date, the introduction of the British system of trial by jury in civil and criminal cases had been persistently urged

in the colony. The *Hobart Town Gazette* shows that juries had been employed in the colony for the trial of criminal cases from the establishment of the Supreme Court in 1824. Juries remain as the tribunal for trying indictable criminal cases and there is a limited right to a jury in civil cases, although in 1935 they were abolished for the purpose of trying motor-accident cases.

Although the Tasmanian jury system was based on the English system, it has since 1934 embodied the principle of allowing *majority* decisions in certain circumstances instead of requiring the *unanimous* decisions once characteristic of jury usage in England and most other countries.

Civil cases have a seven-member jury and, if after three hours' deliberation a 7-0 decision cannot be reached, a 5-2 decision is accepted. If the minimum 5-2 decision cannot be reached after four hours, the jury may be discharged.

In criminal cases, similar principles apply except that a 10-2 decision is accepted in lieu of 12-0 after stipulated periods of deliberation. In the case of crimes punishable with death, 12-0 is necessary to convict, but 10-2 can bring in a verdict of not guilty, or not guilty of the capital crime, but guilty of a lesser crime. (*Capital punishment was abolished in 1968.*)

Description of Courts Having Jurisdiction in Tasmania

Courts of Petty Sessions

For every municipality in the State, there is a Court of Petty Sessions. The Court is constituted by a legally qualified police magistrate or by two or more lay justices sitting in Petty Session. In major centres of population, a Court sits regularly and, in smaller centres, a Court sits less frequently or is convened as occasion requires. A police magistrate has power to do alone whatever may be done by a Court of Petty Sessions and any other act which may be done by two or more justices in Petty Session. The prefix 'police' is traditional but the magistrate has no connection with the police force.

A Court of Petty Sessions has jurisdiction over all summary offences and also over certain indictable offences at the option of the defendant. Under the *Justices Act 1963*, a defendant may choose summary trial in the Court of Petty Sessions when charged with the following crimes: (a) Escape or rescue; facilitating escape of a prisoner or harbouring an offender; assisting escape of a criminal lunatic; rescuing goods legally seized; making a false declaration (or statement). (b) Stealing; killing an animal with intent to steal; unlawfully branding an animal; obtaining goods by a false pretence; cheating; fraud in respect of payment for work; receiving stolen property. (In all these cases the value of the property concerned must exceed \$20 but not \$400. If the value does not exceed \$20 the defendant will be tried summarily. If it exceeds \$400 he will be committed for trial in the Supreme Court.) (c) Breaking a building other than a dwelling-house. (It is necessary for the defendant to be committed to the Supreme Court for trial where it is alleged that in the commission of the offence: property to the value of more than \$400 has been stolen; violence has been used or offered to any person in or about the building; the person had in his possession a gun, pistol, dagger, cosh, or other offensive weapon; explosives were used; or the defendant intended to commit a crime other than stealing.) (d) Forgery; uttering. (The complaint must be for an offence in respect of a cheque for not more than \$400.)

The following table shows the number of cases tried in the lower courts over a five-year period. (Minor traffic offences settled without court appearance are excluded.)

Cases Tried in Lower Courts

| Offence | | 1963 | 1964 | 1965 | 1966 | 1967 |
|--------------------------------------|---------|--------|--------|--------|--------|--------|
| Offences Against the Person | Males | 575 | 455 | 754 | 640 | 779 |
| | Females | 21 | 9 | 13 | 20 | 25 |
| Offences Against Property (a) | Males | 2,090 | 2,471 | 3,588 | 3,558 | 3,604 |
| | Females | 148 | 117 | 294 | 352 | 342 |
| Offences Against the Currency | Males | 62 | 92 | 361 | 171 | 116 |
| | Females | 2 | 4 | 9 | 100 | 73 |
| Offences Against Good Order | Males | 1,523 | 1,494 | 1,985 | 1,957 | 1,804 |
| | Females | 132 | 89 | 46 | 106 | 76 |
| Offences Against Traffic Regulations | Males | 20,384 | 20,596 | 24,135 | 23,626 | 23,067 |
| | Females | 762 | 971 | 1,188 | 1,479 | 1,391 |
| All Other Offences (b) | Males | 8,572 | 4,981 | 7,082 | 9,197 | 10,098 |
| | Females | 457 | 423 | 489 | 764 | 481 |
| Total Offences | Males | 33,206 | 30,089 | 37,905 | 39,149 | 39,468 |
| | Females | 1,522 | 1,613 | 2,039 | 2,821 | 2,388 |

(a) The increase in these offences may be partly due to amendments to the *Justices Act* 1963, which empowered lower courts to determine many cases which formerly would have been taken to the Supreme Court.

(b) Includes offences mainly against liquor, education, neglected children, revenue, and gambling suppression laws, desertion of wives and children, perjury and subornation, and conspiracy.

The following table shows cases tried and their results. (Minor traffic offences settled without court appearance are excluded.)

Lower Courts, 1967

| Offence | Cases Tried | Convic- | Com- | Ad- | Dis- | Re- |
|--|-------------|---------|-----------|----------|--------------------|--------|
| | | Tions | mitted | journed | missed | manded |
| | | | to Higher | Sine Die | or With- drawn (a) | |
| MALES | | | | | | |
| Offences Against the Person .. | 779 | 412 | 117 | 112 | 127 | 11 |
| Offences Against Property .. | 3,604 | 2,497 | 373 | 424 | 265 | 45 |
| Offences Against the Currency .. | 116 | 75 | 19 | 17 | 3 | 2 |
| Offences Against Good Order .. | 1,804 | 1,405 | 3 | 220 | 170 | 6 |
| Offences Against Traffic Reg- ulations .. | 23,067 | 18,163 | .. | 3,038 | 1,858 | 8 |
| All Other Offences (b) .. | 10,098 | 7,229 | 5 | 1,091 | 1,763 | 10 |
| Total | 39,468 | 29,781 | 517 | 4,902 | 4,186 | 82 |

FEMALES

| | | | | | | |
|--|-------|-------|----|-----|-----|----|
| Offences Against the Person .. | 25 | 10 | 2 | 6 | 7 | .. |
| Offences Against Property .. | 342 | 223 | 26 | 59 | 33 | 1 |
| Offences Against the Currency .. | 73 | 61 | .. | 5 | 7 | .. |
| Offences Against Good Order .. | 76 | 54 | .. | 11 | 11 | .. |
| Offences Against Traffic Reg- ulations .. | 1,391 | 1,072 | 3 | 196 | 120 | .. |
| All Other Offences (b) .. | 481 | 324 | 1 | 44 | 112 | .. |
| Total | 2,388 | 1,744 | 32 | 321 | 290 | 1 |

PERSONS

| | | | | | | |
|-------------|--------|--------|-----|-------|-------|----|
| Total | 41,856 | 31,525 | 549 | 5,223 | 4,476 | 83 |
|-------------|--------|--------|-----|-------|-------|----|

(a) 'Dismissed' is equivalent to 'not guilty' in the higher courts.

(b) Includes offences mainly against liquor, education, neglected children, revenue, and gambling suppression laws, desertion of wives and children, perjury and subornation, and conspiracy.

Courts of Requests

These are constituted as courts with civil jurisdiction for each municipality in accordance with the authority given by the *Local Courts Act* 1896. Courts are held before a commissioner, who is a legally qualified police magistrate. In the larger centres these courts sit weekly but in smaller centres monthly, and in sparsely populated country areas four times a year.

Every Court has jurisdiction throughout the State but a plaintiff may lose costs if he brings his action in a Court other than the Court nearest to which the defendant lives or carries on business.

The jurisdiction of a Court of Requests, which is a court of record, covers all personal actions where the debt or damage claimed does not exceed the maximum amount fixed under the Act. Since 1 November 1966 the sum of \$1,500 has been fixed as the maximum jurisdiction for a Court of Requests in respect of a debt or liquidated sum, and \$1,000 in any other case.

The commissioner alone determines all questions of fact as well as of law and his decision is the judgement of the Court, unless a jury is required. In any action either party may require a jury as of right and there is power for the commissioner to order that an action be tried by a jury, even though neither party has required it.

Law and equity are administered concurrently in the Court and the general principles of practice in the Supreme Court are adopted and applied in cases not expressly provided for in the Act or Rules.

Courts of General Sessions

A Court of General Sessions with civil jurisdiction is constituted under the *Local Courts Act* 1896 for each municipality of the State. The cities are excluded, civil actions there being dealt with by Courts of Requests. A Court of General Sessions is constituted by a chairman (elected by the justices for the municipality) and at least one other justice. All questions are decided by a majority of the justices present and, if they are equally divided in opinion, the chairman has both a deliberative and casting vote. The Court sits once a month if there is business requiring its attention.

A Court of General Sessions has jurisdiction to deal with civil proceedings of a minor nature and the limit of the Court's jurisdiction has been fixed at the sum of \$100.

Litigation in Civil Courts

The following table shows the number of plaints entered and writs issued in the lower and higher Tasmanian courts over a three-year period:

Litigation in Civil Courts

| Particulars | 1965 | | 1966 | | 1967 | |
|------------------------------|--------|--------|--------|--------|--------|--------|
| | Number | Amount | Number | Amount | Number | Amount |
| Lower Courts— | | \$'000 | | \$'000 | | \$'000 |
| Plaints Entered | 39,102 | 2,400 | 39,539 | 2,693 | 38,276 | 2,991 |
| Verdicts for Plaintiff | 18,755 | 1,153 | 17,383 | 1,196 | 17,165 | 1,314 |
| Higher Courts— | | | | | | |
| Writs Issued | 1,651 | (a) | 1,759 | (a) | 917 | (a) |

(a) Not available.

(b) The lower courts were given increased jurisdiction from 1 November 1966.

The Supreme Court of Tasmania

The Supreme Court of Tasmania is constituted by the Chief Justice and four Puisne Judges. Regular sittings of the Court are held at Hobart, Launceston, Devonport and Burnie, although the Court is empowered to sit and act at any time and at any place for the exercise of any part of the jurisdiction and business of the Court.

The Court has jurisdiction over all causes, both civil and criminal, except those reserved to the High Court of Australia under the Commonwealth Constitution. It also exercises federal jurisdiction in matters such as matrimonial causes, bankruptcy, etc. Its civil jurisdiction extends to all causes of action, whatever the amount involved may be, and its criminal jurisdiction includes the trial of all indictable offences. In civil cases the Court has power to call in the aid of one or more assessors specially qualified to assist in the trial of the action, but is not bound by the opinion or advice of any such assessor.

There is an appeal to the Supreme Court of Tasmania from all inferior courts, and from many statutory tribunals.

Law and equity are administered concurrently in the Court which is enjoined to grant, either absolutely or on such terms and conditions as seem just, all such remedies as any of the parties may be entitled to so that, as far as possible, all matters in controversy between the parties may be completely and finally determined, and a multiplicity of legal proceedings avoided. The Judges, on the recommendation of the Rules Committee, are empowered to make rules regulating the practice and procedure of all proceedings in the Court.

The jurisdiction of the Court is usually exercised by a Judge of the Court and from his decision there is an appeal to the Full Court of the Supreme Court of Tasmania. A Full Court consists of two or more Judges of the Court. The Full Court is also a Court of Criminal Appeal under the Criminal Code. The latter is a Court to which appeals may be brought by the Crown or by an accused person where an indictable offence is involved. In some cases, there is an appeal as of right but, in other cases, special leave is required.

The following table shows the number of cases tried in the higher courts, and the number of convictions:

Supreme Court Actions, 1967

| Offence | Cases Tried | | Convictions | |
|--|-------------|---------|-------------|---------|
| | Males | Females | Males | Females |
| Offences Against the Person— | | | | |
| Murder | .. | .. | .. | .. |
| Attempted Murder | 1 | 1 | .. | .. |
| Manslaughter (including Offences arising from Traffic Accidents) | 6 | .. | 1 | .. |
| Robbery with Violence | 9 | .. | 9 | .. |
| Wounding and Grievous Bodily Harm | 5 | 1 | 5 | 1 |
| Aggravated Assault | 3 | .. | 3 | .. |
| Common Assault | 3 | .. | 3 | .. |
| Abduction | 2 | .. | 2 | .. |
| Abortion and Attempts to Procure | 1 | 1 | 1 | .. |
| Rape | 6 | .. | 5 | .. |
| Indecent Assault | 3 | .. | 3 | .. |
| Defilement and Unlawful Carnal Knowledge | 55 | .. | 50 | .. |
| Unnatural Carnal Knowledge | 3 | .. | 2 | .. |
| Indecent Practices between Male Persons | 15 | .. | 15 | .. |
| Incest | 4 | 1 | 4 | 1 |
| Dangerous Driving | 7 | .. | 6 | .. |

*Social Conditions*Supreme Court Actions, 1967—*continued*

| Offence | Cases Tried | | Convictions | |
|---|-------------|---------|-------------|---------|
| | Males | Females | Males | Females |
| Offences Against Property— | | | | |
| Burglary or Housebreaking | 38 | 6 | 37 | 6 |
| Breaking a Building other than a Dwelling | 42 | .. | 39 | .. |
| Stealing from the Person | 41 | 4 | 36 | 4 |
| Embezzlement and Stealing by Servants | 1 | .. | 1 | .. |
| Receiving | 5 | .. | 3 | .. |
| Obtaining Goods by False Pretences | 8 | 1 | 7 | 1 |
| Arson | 3 | .. | 3 | .. |
| Forgery and Offences Against the Currency— | | | | |
| Forgery and Uttering Offences | 4 | .. | 4 | .. |
| Offences Against Good Order— | | | | |
| Escape from Custody | .. | .. | .. | .. |
| All Other Offences— | | | | |
| Perjury and Subornation | 2 | 1 | .. | 1 |
| Not Elsewhere Specified | 3 | .. | 1 | .. |
| Total (a) | 270 | 16 | 240 | 14 |

(a) There are fewer Supreme Court cases tried than the number committed from the lower courts would lead one to expect. This is because (i) complaints often embrace several offences in the lower courts; (ii) some cases are not proceeded with.

The following table shows the number of convictions in the higher courts over a five-year period:

Supreme Court Cases—Convictions

| Offence | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|------|------|------|------|------|
| Offences Against the Person | 29 | 48 | 64 | 68 | 111 |
| Offences Against Property (a) | 237 | 111 | 97 | 133 | 137 |
| Forgery and Offences Against the Currency | 8 | 10 | 6 | 1 | 4 |
| Offences Against Good Order | 13 | 3 | 1 | 2 | .. |
| All Other Offences | 6 | .. | 2 | .. | 2 |
| Total (a) | 293 | 172 | 170 | 204 | 254 |

(a) A 1963 amendment to the Justice Act provided that if the amount involved in an offence against property was less than \$400, the defendant could elect to be tried in a magistrate's court. This had the effect of reducing the number of cases coming before the judges' courts.

The High Court of Australia

This Court was created by the Commonwealth Constitution and it has both original and appellate jurisdiction. It is constituted by the Chief Justice of Australia and six other Justices.

There is an appeal as of right to the High Court from the Supreme Court of the State in any civil matter where the sum involved amounts to at least \$3,000 or where the decision under appeal affects the status of any person under the laws relating to aliens, marriage, divorce, bankruptcy or insolvency. In other cases (including criminal cases) there is an appeal to the High Court if leave or special leave is granted.

Sittings of the High Court of Australia are held in each capital city and one sitting is held in Hobart each year if the volume of business warrants it. Tasmanian cases otherwise are usually heard either in Melbourne or Sydney.

Privy Council

An appeal lies direct from the Supreme Court to the Privy Council in a civil action where the amount involved is not less than \$2,000 and in other cases an appeal may be heard by special leave. Special leave may also be obtained to appeal to the Privy Council from a decision of the High Court of Australia but there are restrictions where the interpretation of the Commonwealth Constitution is involved. (*See Appendix C, back of book.*)

Tribunals

There are many tribunals which are not true courts and the powers and functions of these depend upon the detailed provisions of the particular statute under which they operate. Certain specialised courts have been created by statute. For example, there is the Wardens' Court constituted under the *Mining Act* 1929 and the Licensing Court constituted under the *Licensing Act* 1932.

Coroner's Courts

Coroners are appointed by the Governor and have jurisdiction throughout the State. Under the *Coroner's Act* 1957, a coroner may hold an inquest: (a) concerning the manner of death of any person who has died a violent or unnatural death, who died suddenly, or who died in a prison, hospital or mental institution; at the direction of the Attorney General, he may also be required to hold an inquest concerning any death; (b) concerning the cause of any fire if the Attorney General has directed, or has approved a request by the owner or insurer of the property; or at the request of the Fire Brigades Commission or the Rural Fires Board.

The coroner usually acts alone in holding an inquest, but in the case of a death, either the Attorney General or the relatives of the deceased may request that a four or six man jury be empanelled. The inquest may be dispensed with and post mortem by a doctor substituted, unless the circumstances of death make an inquest mandatory under the Act.

The duty of the court is to determine who the deceased was, and the circumstances by which he came to his death. Medical practitioners and other persons may be summoned to give evidence. Viewing of the body is not essential but in the case of the death of an infant in a nursing home, the coroner may also enquire generally into the conditions and running of the institution. On the evidence submitted at the inquest, the coroner can order a person to be committed to the Supreme Court and can grant bail. In the case of murder, a coroner can issue a warrant for apprehension.

Children's Courts

A 'child' in this jurisdiction is one under the age of 17 years and no proceedings can be instituted without the consent of the Director of Social Welfare. The Court, before finally disposing of the case, must receive a report from a child welfare officer, unless the Court considers the offence trivial or the Director decides not to provide one. A child's parent has the right to be heard and to examine and cross examine witnesses, or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience.

In summary proceedings, the Court normally enters a conviction against a child only if it imposes a sentence of imprisonment but there may be special circumstances in some cases which persuade it to record a conviction.

Children under 16 years cannot be sentenced to imprisonment and children of 16 years cannot be sentenced for more than two years, in aggregate. Minimum penalties imposed by statute do not apply to children; for those

under 14 years the maximum fine is \$20, and for those over 14 years, \$50. The Court may impose a supervision order to bring the child under the guidance of a child welfare officer or, if over 15 years, of a probation officer (welfare officers *may* supervise children over 15 years if the Court so directs). Alternatively, the Court may declare the child a ward of the State, placing him under the control of the Director of Social Welfare until his 18th birthday, unless sooner released; it may also direct that a ward be committed to an institution.

Neglected or uncontrolled children are in the Court's jurisdiction; it may make a supervision order, impose wardship or bind the parents over to provide proper care and control, and comply with other directions. If parents have contributed to a child's offence, by failing to control the child, they may also be charged, convicted, fined, ordered to pay for damage and obliged to enter into a recognisance for the good behaviour of the child for up to 12 months.

Unlike a Children's Court, the Supreme Court is in no way inhibited in imposing a penalty on a child; in addition to its ordinary sentencing powers, it may make supervision or wardship orders, and commit a child to an institution. If a child is sentenced to imprisonment, the responsible Minister may direct that the sentence be served in a place other than a gaol.

Statistics of offences for which children were reported appear in this chapter under 'Department of Social Welfare'.

Bankruptcy

On 4 March 1968, the new Federal *Bankruptcy Act* 1966 (repealing the Act of 1924-1965) came into operation, the Federal Court of Bankruptcy still exercising jurisdiction only in N.S.W. and Victoria and the Supreme Court of Tasmania still exercising Federal jurisdiction within this State.

Under the new legislation, a person unable to meet his debts may voluntarily present to the Registrar in Bankruptcy a petition against himself and become a bankrupt under section 55; if the Registrar rejects the petition and refers it to the Court, he may be directed to accept it. A creditor may apply to the court for compulsory sequestration of a debtor's estate where the debt is not less than \$500. Where a debtor becomes bankrupt:

- (i) his property, not being after-acquired property, vests immediately in the Official Receiver;
- (ii) his after-acquired property vests in the Official Receiver, or if another person is trustee, then in that trustee.

A debtor may avoid sequestration, in some circumstances, by authorising a registered trustee to call a meeting of his creditors and take over the control of his property; or by authorising a solicitor to call a meeting of his creditors (Part X). The control of the debtor's property is undertaken by the trustee until the creditors resolve otherwise, or the Court orders otherwise, or a deed of assignment or arrangement is executed, or a composition is accepted, or the debtor dies or becomes bankrupt.

A person becoming bankrupt after the commencement of the new Act is discharged from bankruptcy in five years (section 149) unless discharged earlier by the Court. Undischarged bankrupts at 4 March 1968 are discharged three years later (4 March 1971) or five years from the date of the sequestration order, whichever is the later (unless discharged earlier by the Court). The Registrar, trustee or creditor may lodge an objection to this type of discharge, and if it is not withdrawn the debtor may apply to the Court for discharge under section 150.

The following table shows the number of bankruptcies of the various types together with the assets and liabilities of debtors:

Tasmania—Bankruptcy Proceedings (a)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| Sequestration Orders and Orders for Administration of Deceased Debtors' Estates— | | | | | |
| Number | 116 | 123 | 92 | 103 | 69 |
| Liabilities .. ..(\$'000) | 768 | 499 | 340 | 810 | 297 |
| Assets .. ..(\$'000) | 276 | 224 | 163 | 202 | 165 |
| Deeds of Assignment, Compositions and Schemes under Part XI— | | | | | |
| Number | 2 | .. | 1 | 1 | 1 |
| Liabilities .. ..(\$'000) | 62 | .. | 32 | 157 | 7 |
| Assets .. ..(\$'000) | 47 | .. | .. | 25 | 10 |
| Deeds of Arrangement under Part XII— | | | | | |
| Number | 1 | 3 | 4 | 3 | .. |
| Liabilities .. ..(\$'000) | 15 | 44 | 37 | 17 | .. |
| Assets .. ..(\$'000) | 10 | 41 | 30 | 7 | .. |
| Total— | | | | | |
| Number | 119 | 126 | 97 | 107 | 70 |
| Liabilities .. ..(\$'000) | 844 | 543 | 409 | 984 | 304 |
| Assets .. ..(\$'000) | 333 | 265 | 193 | 234 | 175 |

(a) Under legislation described in the 1968 *Year Book*.

Trade Practices Tribunal

The Commonwealth Parliament passed the *Trade Practices Act* 1965, 'to preserve competition in Australian trade and commerce to the extent required by the public interest'; due to constitutional limitation of Commonwealth power, provision was made in the Act for co-operation between the Commonwealth and the States, the provision being that each State could adopt complementary legislation, if it so desired. In this way, practices in both interstate and intrastate trade would be subject to scrutiny. No State has so far enacted complementary legislation. However, Tasmania, by its *Commonwealth Powers (Trade Practices) Act* 1966, chose to make a constitutional reference to the Commonwealth, enabling the Commonwealth to extend the application in Tasmania of the Commonwealth Act; an amendment to the Commonwealth Act for such extension was made in 1967.

The Commonwealth Act deals with agreements and practices where an element of restriction is involved and defines which are 'examinable'. It establishes a Register of Trade Agreements to be kept by a Commissioner and obliges parties making examinable agreements to register them (certain agreements relating only to services are exempt). The Commissioner, on the basis of registered information, or of information from any other source, may consider an examinable agreement or a particular practice to contain restrictions *contrary to the public interest*, in which case he may institute proceedings before a Trade Practices Tribunal. It is the task of the Tribunal to determine whether the restrictions are contrary to the public interest; if this is the finding of the Tribunal, it has the power to make an order ending the practice, or restraining all or any of the parties from giving effect to, or enforcing or purporting to enforce, the restrictive agreement.

Where the Tribunal has made a determination regarding an agreement or practice, a party to the proceedings may apply to a Review Division of the Tribunal for an order directing that the determination be reconsidered. Part IX

of the Act makes it an offence to engage in collusive tendering or collusive bidding. Amendments in 1966 to the Commonwealth Act made provision among other things, for the control of the operations of shipping conferences. The Commonwealth Act operated from 1 September 1967.

The Licensing Court

Prior to 1953 there were forty-nine licensing courts. They each consisted of a police magistrate as chairman and two justices of the peace.

With a view to obtaining uniformity of standards and to improving accommodation throughout the State, amendments in 1952 were made to the *Licensing Act 1932*. These made provision for the appointment of a Licensing Court to consist of a police magistrate as chairman and two Government nominees. The Act also empowered the Court to determine the minimum standards of service, management, accommodation, structure and equipment which should apply to hotels, and also the qualifications required by persons holding or applying for licences. Since then the standard of hotels throughout Tasmania has continually improved.

The following table shows the total bedroom accommodation available to the public during recent years:

Standard of Accommodation—Hotels (a)

| Date | Total Number of Bedrooms | Number of Bedrooms Furnished With— | |
|-----------------|-----------------------------|---|--|
| | | Private Bath, Showers, Toilets and Hand- basins | Handbasins with Hot and Cold Running Water |
| 31 Dec.—1957 .. | 3,763 | 182 | 1,557 |
| 30 June—1962 .. | 3,672 | 576 | (b) |
| 1967 .. | 3,599 | 937 | 2,164 |
| 1968 .. | 3,562 | 955 | 2,146 |

(a) Includes licensed motels.

(b) Not available

Every hotel in Tasmania is visited annually by a member of the Court and the Court's inspectors and the public health inspector make a thorough examination of each hotel prior to the annual sittings at which renewals of licences are considered. Reports are furnished for the information of the Court and the Tourist Department. An officer of the Fire Brigades Commission also carries out an annual inspection to ensure that each hotel complies with the requirements of the Commission.

The following table shows the licences and club registrations operative:

Licensed Hotels, Clubs and Other Licensed Dealers

| At 30 June | Hotels and Motels | Public Houses (a) | Railway Refreshment Rooms | Wholesale Licences | Registered Clubs | Total |
|------------------|-------------------------|-------------------------|---------------------------------|-----------------------|---------------------|---------|
| 1963 .. | 273 | 5 | 1 | 28 | 121 | 428 |
| 1964 .. | 273 | 5 | 1 | 28 | 128 | 435 |
| 1965 .. | 270 | 5 | 2 | 28 | 130 | 435 |
| 1966 .. | 266 | 5 | 1 | 29 | 131 | 432 |
| 1967 .. | 265 | 5 | 1 | 29 | 134 | (b) 435 |

(a) These licensed premises do not provide accommodation.

(b) Includes one Wine Licence (manufacturer's) not specified in table.

The Ogilvie ministry introduced 10 am to 10 pm bar trading hours before World War II and, in the post-war period, Tasmania's 10 pm closing contrasted with 6 pm closing in S.A., Victoria and N.S.W. However, N.S.W. in the

1950s and, more recently, Victoria liberalised their drinking laws so that S.A. was the only State with 6 pm closing in 1967 (when amending legislation was passed in that State).

In 1967, the Tasmanian *Licensing Act* was amended to allow 11.30 pm closing on Friday and Saturday nights for those hotels which desire to observe these hours and which obtain the necessary permits; 10 pm closing is now the rule for other nights (excluding Sunday) with provision nevertheless to obtain extension permits for special functions. The permitted age for drinking on licensed premises has been lowered from 21 to 20 years; restaurants complying with defined conditions can now obtain licences to sell liquor (previously diners could take their own liquor to certain restaurants, but not buy it on the premises); licensed restaurants can open till 11.30 pm six nights a week. The type of accommodation, kitchen specifications, etc. for licensed restaurants have to be of a very high order and only two licences had been issued by June 1968.

The following table shows the estimated consumption of alcoholic liquor in Tasmania over a five-year period:

Estimated Consumption of Beer, Wine and Spirits

| Year | Beer | | Wine | | Spirits | |
|---------|-----------------------|-----------------------------|---------------------|-----------------------------|---------------------------|-----------------------------|
| | Total | Per Head of Mean Population | Total (a) | Per Head of Mean Population | Total | Per Head of Mean Population |
| 1962-63 | '000 gallons 6,618 | gallons 18.28 | '000 gallons 422 | gallons 1.17 | '000 proof gallons 138 | proof gallons 0.38 |
| 1963-64 | 6,609 | 18.05 | 427 | 1.17 | 140 | 0.38 |
| 1964-65 | (b) | (b) | 429 | 1.17 | 143 | 0.39 |
| 1965-66 | (b) | (b) | 443 | 1.19 | 147 | 0.39 |
| 1966-67 | (b) | (b) | 457 | 1.22 | 154 | 0.41 |

(a) Wholesale sales of resident distributors.

(b) Not available for publication.

Comparative Australian consumption figures per head for 1965-66 were: beer, 24.3 gallons; wine, 1.3 gallons; spirits, 0.3 proof gallons.

Prisons

General

The establishment, regulation and conduct of prisons and the custody of prisoners in Tasmania are provided for under the *Prison Act* 1868 and 1908. Under the Act, a Controller of Prisons is appointed by the Governor and is responsible for the management of the main prison as well as the custody of prisoners.

Two justices are appointed each year to act as Visiting Justices. They visit the prison at least once per month to examine the treatment, behaviour and condition of prisoners, and the condition of the prison. They hear complaints with regard to offences committed in the gaol, and have power to punish offenders either by solitary confinement or by extending the term of imprisonment.

The main prison in Tasmania is at Risdon near Hobart, and has, as an outstation, the Prison Farm at Hayes in the Derwent Valley. The prison at Launceston is limited in function, receiving only persons on remand or sentenced for periods not exceeding seven days.

The following table shows Prisons Department expenditure from Consolidated Revenue:

**Prisons Department—Expenditure From Consolidated Revenue
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------|---------|---------|---------|---------|---------|
| Total Expenditure | 454 | 500 | 539 | 587 | 683 |
| Net Receipts (a) | 10 | 8 | 16 | 18 | 18 |
| Net Expenditure | 444 | 492 | 523 | 569 | 664 |

(a) From prison industry and gaol farm activities described later in the text.

Prisoners Received and Discharged

In the following table giving details of prisoners received into and discharged from Tasmanian prisons, no distinction is made between those on remand and those convicted and sentenced to imprisonment. (Figures for H.M. Prison, Risdon, include those held in custody at the Hayes prison farm.)

Prisoners Received and Discharged, 1966-67

| Particulars | H.M. Prison, Risdon | | H.M. Prison, Launceston | | Total | |
|---------------------|------------------------|---------|----------------------------|---------|---------|---------|
| | Males | Females | Males | Females | Males | Females |
| In Custody 30.6.66 | 260 | 6 | | | 260 | 6 |
| Received 1966-67 .. | (a) 826 | (a) 50 | (b) 161 | (b) 13 | (c) 987 | (c) 63 |
| Discharged 1966-67 | 787 | 51 | 160 | 13 | 947 | 64 |
| In Custody 30.6.67 | 299 | 5 | 1 | .. | 300 | 5 |

(a) Includes transfers from H.M. Prison, Launceston: males 345; females 15.

(b) Excludes transfers to H.M. Prison, Risdon: males 345; females 15.

(c) Net receivals, i.e. transfers from Launceston to Risdon counted as Risdon receivals only.

Age of Prisoners

Young offenders account for a high and rising proportion of receivals, as in other countries. The proportion of male prisoners *received* in the under 25 year age group was 49 per cent in 1962-63; 55 per cent in 1963-64; 59 per cent in 1964-65; this age group comprised 55 per cent of all *convicted* male prisoners in 1965-66 and 57 per cent in 1966-67. The following table shows the ages of convicted prisoners received:

Ages of Convicted Prisoners Received at Risdon 1966-67

| Sex | Age Group (in Years) | | | | | | | | Total |
|---------------|----------------------|-----------|-------|-------|-------|-------|-------|-------------|-------|
| | Under 18 | 18 and 19 | 20-24 | 25-29 | 30-39 | 40-49 | 50-59 | 60 and Over | |
| Males | 77 | 127 | 180 | 89 | 89 | 76 | 28 | 10 | 676 |
| Females | 5 | 12 | 9 | 3 | 4 | 4 | 1 | .. | 38 |
| Total | 82 | 139 | 189 | 92 | 93 | 80 | 29 | 10 | 714 |

Prisoners' Offences

Just over fifty per cent of the offences for which people were gaoled in 1966-67 involved 'stealing' and 'breaking and entering'. The following table shows the offences for which convicted prisoners were received:

Offences for Which Convicted Prisoners Were Received at H.M. Prison, Risdon, 1966-67

| Offence | Offences By— | | Offences | |
|---|--------------|---------|----------|----------------------------------|
| | Males | Females | Total | Proportion of all Offences |
| Stealing | no. 640 | no. 14 | no. 654 | per cent 38.2 |
| Breaking and Entering | 211 | .. | 211 | 12.3 |
| Unlawful Use, Motor Vehicle | 129 | 4 | 133 | 7.7 |
| Vagrancy | 68 | 11 | 79 | 4.6 |
| False Pretences | 67 | 1 | 68 | 4.0 |
| Housebreaking | 39 | .. | 39 | 2.3 |
| Breach of Bond | 13 | 1 | 14 | 0.8 |
| Breach of Traffic Act | 18 | .. | 18 | 1.1 |
| Assault | 78 | 2 | 80 | 4.7 |
| Failure to Pay Fine | 62 | 3 | 65 | 3.8 |
| Damage to Property | 14 | 1 | 15 | 0.9 |
| Assaulting Police Officer | 26 | .. | 26 | 1.5 |
| Maintenance | 7 | .. | 7 | 0.4 |
| Receiving | 17 | 1 | 18 | 1.1 |
| Indecent Assault | 14 | .. | 14 | 0.8 |
| Forgery | 22 | .. | 22 | 1.3 |
| Uttering | 25 | .. | 25 | 1.5 |
| Resisting Arrest | 14 | .. | 14 | 0.8 |
| All Other | 201 | 9 | 210 | 12.3 |
| Total (a) | 1,665 | 47 | 1,712 | 100.0 |

(a) The number of offences exceeds the number of prisoners received since some prisoners were convicted of multiple offences.

The next table classifies convicted prisoners according to the number of their previous convictions:

Convicted Prisoners Received in H.M. Prison, Risdon, Classified According to Number of Previous Convictions (a), 1966-67

| Particulars | Number of Previous Convictions | | | | Total |
|-----------------------------------|--------------------------------|------|-----|---------------|-------|
| | None | One | Two | Three or More | |
| Prisoners Received | 114 | 85 | 57 | 458 | 714 |
| Proportion of Total (per cent) .. | 16.0 | 11.9 | 8.0 | 64.1 | 100.0 |

(a) Previous convictions may not necessarily have involved imprisonment.

Parole and Remission of Sentences

Under the *Prison Act*, the Governor of the State may commute the death sentence to a term of imprisonment. The death sentence has not been carried out in Tasmania since 1946 (1968 saw the abolition of capital punishment).

Good conduct remissions of up to 25 per cent of sentence for prisoners sentenced to over three months may be granted by the Governor of the State on the Controller's recommendation. Prisoners may also be paroled on licence for the balance of their sentences.

The Indeterminate Sentences Board is appointed by the Governor of the State. It reviews the cases of prisoners serving indeterminate sentences. Such prisoners may be released on a two-year licence and are subject to any conditions the Board may recommend, e.g. the supervision of a probation officer.

The following summary table shows the number of prisoners under the supervision of the Indeterminate Sentences Board:

Prisoners with Indeterminate Sentences at H.M. Prison, Risdon

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------|---------|---------|---------|---------|---------|
| Received During Year .. | 30 | 25 | 18 | 16 | 11 |
| Discharged During Year .. | 38 | 25 | 24 | 13 | 12 |
| In Custody at 30 June .. | 16 | 16 | 10 | 13 | 12 |

Capital Punishment

The death sentence has not been carried out in Tasmania since 1946, but judges have pronounced the sentence from time to time; in October 1968, the Attorney-General introduced a bill to abolish capital punishment and this was passed by the Parliament in December.

Risdon Gaol

The Risdon Gaol, with provision for 324 prisoners, was opened in November 1960, when male prisoners were transferred from the old Hobart Gaol. Subsequently, the Female Prison, the first entirely separate gaol for women to be built in the State, was opened in June 1963, also at Risdon. The following table shows the daily average and highest number of prisoners at Risdon Gaol over a five-year period:

Number of Prisoners at H.M. Prison, Risdon (a)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------|---------|---------|---------|---------|---------|
| Prisoners— | | | | | |
| Maximum Number | 265 | 260 | 273 | 276 | 340 |
| Daily Average | 247 | 238 | 236 | 239 | 292 |

(a) Includes Hayes Prison Farm with accommodation for 60 prisoners.

The Risdon Gaol incorporates workshops which serve as a basis for vocational and trade training in such subjects as woodworking, tailoring, sheet metal working, bootmaking and breadmaking. Educational services include instruction during working hours for illiterate and semi-literate prisoners; tuition, on two evenings weekly, in general academic subjects to Secondary Schools Certificate standard; correspondence courses in University, Matriculation, Schools Board and various technical and commercial subjects; tuition in English for migrants; and training three nights weekly in art and allied subjects. A classification committee interviews all prisoners on admission and decides on each individual's training programme.

Groups meet regularly for wood carving, art, pottery, toy making, chess and dramatics. Feature and documentary films are screened monthly, and concert parties visit the prison regularly. A comprehensive sports programme is conducted, including athletics, gymnastics, and competitions in cricket, volley ball and basketball.

The State Library of Tasmania helps with the prison library and library officers advise the prisoners on book selection each weekend; 5,000 volumes are immediately available, and a request programme operates. Over 650 books are borrowed from the library weekly.

Prison industries produce articles for government departments and institutions. The following table shows the receipts for prison industries over a five-year period. The installation of a new laundry in 1963 has increased receipts from sales and services but the amounts are not a true indication of value to the government, as laundry is processed at a nominal figure for hospitals and other government institutions.

Gaol Suspense Account (Prison Industries)
(\$)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Receipts (a) | 54,431 | 58,881 | 66,818 | 73,246 | 89,604 |
| Paid to Consolidated Revenue.. (b)3,638 | | 6,827 | 10,944 | 13,291 | 11,136 |

(a) Maintenance, material and capital charges are met from receipts, the balance being paid to Consolidated Revenue.

(b) Includes surplus from 1960-61 and 1961-62.

Hayes Prison Farm

The Prison Farm at Hayes ('Kilderry') is an outstation of the Risdon Prison. It aims to prepare men for a normal way of life through the operation of the honour system. Up to 60 prisoners who are regarded as being worthy of trust, regardless of their age, length of sentence or type of offence, are held here.

The following table shows the receipts from sale of farm produce and the amounts paid to Consolidated Revenue over a five-year period:

Gaol Farm Suspense Account
(\$)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Receipts (a) | 28,229 | 34,429 | 54,742 | 62,590 | 63,170 |
| Paid to Consolidated Revenue.. (b)6,443 | | 1,385 | 4,992 | 4,227 | 7,341 |

(a) Maintenance, material and capital charges are met from receipts, the balance being paid to Consolidated Revenue.

(b) Includes surplus from 1960-61 and 1961-62.

The 1,400 acre property has been developed into a model farm with a great diversity of farming activities. These include 65 acres for vegetables; a registered stud of Friesian cattle and Herefords; about 2,000 sheep for wool and fat lambs; a registered herd of Berkshire pigs; poultry; cropping of wheat, oats, lucerne and hay; breeding of children's ponies; hot house cultivation; and an experimental shrub and tree nursery, etc. All prison requirements of milk and butter are met and the surplus is supplied to the Lachlan Park Hospital. Building construction activities and machinery maintenance workshops also provide employment, but the range of prison industries is more limited than at Risdon. Similar educational and recreational facilities are provided.

Adult Probation Service

The Service deals with the problems of re-settlement and re-employment of discharged prisoners. There is a counselling and guidance service so that ex-prisoners may be placed in occupations suited to their talents.

The Hobart and District Civic Rehabilitation Council, the Prisoners Aid Society, the City Mission, the Society of St Vincent de Paul, chaplains of the various Churches, and other voluntary aid organisations, give material and moral assistance to serving and discharged prisoners.

History

The Tasmanian Police Force

The evolution of the Tasmanian Police Force is described in the 1967 and 1968 *Year Book*.

The Present Force

Organisation: The Police Department is headed by the Commissioner who is responsible to the Minister for Transport and Police. There are four administrative divisions, i.e. Southern, Northern, North-Western and Central, each under the control of a superintendent; and two branches, the Criminal Investigation Branch and the Traffic Branch, each with a superintendent in charge.

Recruitment and Training: Recruits undergo an intensive 12 week course of instruction which aims to present well informed and efficient police officers to the public. Not only must recruits be successful in the initial examinations, but they must also pass a retention exam if they wish to remain in the service. Officers must qualify by examination before promotion to each rank up to inspector. The Department has sponsored some officers' university courses; men are also sent to police colleges in Sydney and Melbourne.

Criminal Investigation: The Criminal Investigation Branch employs over 100 detectives and controls the Information Bureau (see *Fingerprinting and Laboratory* below) and communications.

Traffic Duties: The Department enforces the traffic regulations for the Transport Department. Traffic control occupies a large part of police time.

Search and Rescue: A search and rescue squad, based in Hobart, equipped for bush and sea search and rescue, cliff rescue, and resuscitation is ready to leave at short notice. The squad is supported by walking clubs and other people in various parts of the State.

Other Duties: Inspection of licensed premises, supervision of gaming, conducting special interviews and inquiries for government departments, and the service of notices and summonses are important police functions.

Radio: Radio is used extensively; since 1954 there has been a direct link-up with the continental States. An intrastate system operates between Hobart, Launceston, Burnie, Queenstown, Oatlands and Deloraine. Mobile radio is installed in all police cars and boats. A teleprinter allows direct contact with Interpol, an international police agency, and other States.

Fingerprinting: This is an important aid to criminal investigation. Each year some 2,000 sets of prints are received, checked with the Central Fingerprint Bureau in Sydney and classified. Over 100,000 sets are kept on file.

Laboratory: A modern laboratory equipped with a comparison microscope and other investigation facilities is used by Information Bureau experts for ballistic examination, inspection of documents, file marks, etc. and other evidence of criminal activity. Extensive use is made of photography.

Present Strength of Force

The following table shows the number of police and expenditure:

Police Force—Number and Cost

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Police Officers (a) .. (no.) | 629 | 598 | 633 | 678 | 699 |
| Persons Per Police Officer (a) .. (no.) | 573 | 609 | 581 | 548 | 538 |
| Cost (Total Expenditure of Police Department) .. \$'000 | 2,251 | 2,527 | 2,675 | 2,727 | 3,109 |
| Cost Per Head of Mean Population (\$) | 6.29 | 6.97 | 7.30 | 7.38 | 8.31 |

(a) At 30 June.

*Introduction***Fire Prevention and Fire Fighting**

The area of Tasmania is 26,383 sq. miles (the same as for a square with 162-mile sides). Seventy percent of the State's population is, in Census terms, *urban*, i.e. living in cities or towns with 1,000 or more inhabitants. The responsibility for fire prevention and fire fighting in the cities and main towns rests with local fire brigades under the general control of a central body, the Fire Brigades Commission.

The balance of the State's population (30 per cent) is, again in census terms, *rural*, i.e. living in townships with less than 1,000 inhabitants or in isolated locations such as farms, milling and logging settlements, mining camps, etc. This rural population is spread over a large area and the type of fire brigade organisation appropriate to concentrated, urban settlements cannot be employed; factors of distance, time and finance combine to demand a different mode of approach. The Tasmanian answer has been to set up local rural fire organisations and to co-ordinate their activities through a central body, the Rural Fires Board.

Following the disastrous bushfires of February 1967, the organisation of both types of fire-fighting body was closely examined and certain changes made with a view to securing better co-ordination and increased protection. The changes are described in the sections that follow.

A third relevant authority is the Forestry Commission which is responsible for the fire protection of State Forests and other forested Crown land; the Commission also fights fires on private land if their spread endangers the forests on Crown land.

Fire Brigades Commission

The Commission, established under the *Fire Brigades Act* 1945 as amended, is composed of two representatives of the Minister (the Chief Secretary), three representatives of insurance companies and one representative of city and municipal councils. In 1968, a seventh member representing the Rural Fires Board was appointed; the position of Chief Officer, controlling all urban brigades, was also created. The system of financing the fire brigades is shown below:

Fire Brigades: Principal Sources of Revenue, 1966-67 (a)

| Contributions Received by Fire Brigades Commission | Receipts (\$) | Distribution Made by Fire Brigades Commission | Payments (\$) |
|---|------------------|--|------------------|
| From: State Government .. | 149,000 | To: Fire Brigade Boards .. | 596,000 |
| City & Municipal Councils .. | 149,000 | | |
| Insurance Companies .. | 298,000 | | |
| Total | 596,000 | Total | 596,000 |

(a) The Government also made a special grant of \$13,905 because of costs incurred in the fire disaster of 7 February 1967.

The number of contributing local government authorities in 1966-67 was 31, although the number of fire brigade boards was only 23 (some boards take responsibility for areas lying in more than one municipality, e.g. the Hobart Board with sub-stations in Glenorchy, Clarence and Kingborough). The present contribution formula requires 50 per cent from the insurance companies, and 25 per cent each from the Government and the local government authorities; the Commission prepares an annual estimate of expenditure so that the level of contributions may be fixed in advance. As from 1 July 1968,

the contribution formula will be: insurance companies 55 per cent; Government and local government authorities $22\frac{1}{2}$ per cent each. The loan debt of all fire brigade boards at 30 June 1967 was \$386,411.

At 30 June 1967, the 23 fire brigade boards maintained 36 stations (including sub-stations) and employed 147 permanent firemen (Hobart 87, Launceston 54, Burnie 3, Devonport 3); other firemen, numbering 378, were paid on a part-time basis. In addition, one Hobart sub-station, Fern Tree, situated in forested mountain country, had a volunteer strength of 30. Including the Fern Tree volunteers, the total firemen (officers and men) in the Brigades numbered 555. From October 1967, hours of work were reduced from 56 hours to 40 hours, with the result that more firemen will have to be recruited.

Rural Fires Board

Following the fire disaster of February 1967, an expert committee made recommendations to the Government with respect to future measures on fire prevention and suppression. The report proposed considerable changes in rural fire control and practically all of these were embodied in 1967 amendments to the *Rural Fires Act 1950*. The earlier constitution of the Rural Fires Board is described in the 1968 *Year Book*.

The new Act brings the separate urban and rural fire services and the State Emergency Organisation together under the Chief Secretary. The newly-constituted Rural Fires Board, under a chairman appointed by the Governor, consists of sixteen members representing: Forestry Commission (two members); Police; Fire Brigades Commission; pulp and paper making industry management; sawmilling industry management; Hydro-Electric Commission; Fire and Accident Underwriters' Association; Tasmanian Farmers' Federation; Tasmanian Farmers', Stockowners' and Orchardists' Association; Municipal Association (two members); Australian Workers' Union; Timber Workers' Union; and rural fire brigades.

Under the amended Act, the municipal councils are made responsible for the control of permits for fire use in restricted periods through permit officers (who are not necessarily employees of the councils). Fire use is controlled during only two periods, that is, during *fire danger periods*, when permits are required, and on days of *acute fire danger* when no fires are permitted. These periods are introduced and removed as the seasonal conditions dictate in various parts of the State. The Act requires each municipal council to form a municipal fire committee for the purpose of promoting the formation of rural fire brigades and advising the Board and the council on matters of fire restriction, hazard reduction, the provision of funds for purchase of equipment to be used by rural fire brigades and any other fire control matters. For approved equipment purchases for use by rural fire brigades, the Government contributes a subsidy equal to the sum provided by the municipal council. Areas with particular fire problems and sparse population may be declared as *special fire areas* and be the subject of separate schemes.

The paid staff of the Board consists of the State Fire Control Officer, the Secretary, a clerk and five Regional Fire Officers. There were 50 rural fire brigades at June 1968. These brigades are composed entirely of registered volunteers, involving 2,000 people. The Board's expenditure in 1967-68 is expected to be \$60,120, including \$25,000 paid in subsidies for equipment. Half the administrative expenditure of the Board is met by the insurance companies insuring rural property, and half by the Government.

Chapter 10

LABOUR, PRICES AND WAGES

EMPLOYMENT

Historical

Although employment statistics are accepted as a vital economic indicator, Tasmanian records for the first ninety years give no dissection of the population such that the total number of wage and salary earners can be accurately ascertained. The first census to provide the necessary analysis was that of 1891, the categories used on that occasion and in subsequent censuses being broadly comparable. The composition of the work force is shown in the following table for each census from 1901 to 1961:

Elements of Work Force in Censuses of 1901-1961

| Census Year | Employer | Self-Employed | Employee | Helper not Receiving Wage or Salary | 'Not at Work' (a) | Total in Work Force | Total Population |
|---------------|----------|---------------|----------|-------------------------------------|-------------------|---------------------|------------------|
| 1901—Males .. | 6,213 | 9,100 | 36,063 | 4,098 | 1,810 | 57,284 | 89,624 |
| Females .. | 462 | 2,434 | 10,229 | 2,071 | 356 | 15,552 | 82,851 |
| Persons | 6,675 | 11,534 | 46,292 | 6,169 | 2,166 | 72,836 | 172,475 |
| 1911—Males .. | 8,477 | 6,742 | 40,555 | 3,916 | 1,492 | 61,182 | 97,591 |
| Females .. | 642 | 1,249 | 10,715 | 411 | 326 | 13,343 | 93,620 |
| Persons | 9,119 | 7,991 | 51,270 | 4,327 | 1,818 | 74,525 | 191,211 |
| 1921—Males .. | 4,445 | 13,309 | 42,763 | 1,875 | 3,606 | 65,998 | 107,743 |
| Females .. | 347 | 1,593 | 11,484 | 67 | 510 | 14,001 | 106,037 |
| Persons | 4,792 | 14,902 | 54,247 | 1,942 | 4,116 | 79,999 | 213,780 |
| 1933—Males .. | 7,277 | 11,887 | 38,084 | 1,752 | 10,226 | 69,226 | 115,097 |
| Females .. | 798 | 1,423 | 13,082 | 116 | 1,442 | 16,861 | 112,502 |
| Persons | 8,075 | 13,310 | 51,166 | 1,868 | 11,668 | 86,087 | 227,599 |
| 1947—Males .. | 6,718 | 12,522 | 58,097 | 997 | 1,867 | 80,201 | 129,244 |
| Females .. | 659 | 1,198 | 17,693 | 86 | 481 | 20,117 | 127,834 |
| Persons | 7,377 | 13,720 | 75,790 | 1,083 | 2,348 | 100,318 | 257,078 |
| 1954—Males .. | 6,886 | 12,616 | 72,481 | 778 | 1,215 | 93,976 | 157,129 |
| Females .. | 788 | 1,329 | 21,590 | 246 | 279 | 24,232 | 151,623 |
| Persons | 7,674 | 13,945 | 94,071 | 1,024 | 1,494 | 118,208 | 308,752 |
| 1961—Males .. | 7,108 | 11,619 | 78,863 | 505 | 3,194 | 101,289 | 177,628 |
| Females .. | 1,113 | 1,572 | 25,853 | 194 | 896 | 29,628 | 172,712 |
| Persons | 8,221 | 13,191 | 104,716 | 699 | 4,090 | 130,917 | 350,340 |

(a) Includes those who stated they were usually engaged in work, but were not actively seeking a job at the time of the census by reason of sickness, accident, etc., or because they were on strike, changing jobs, temporarily laid off, etc. It also includes persons able and willing to work but unable to secure employment, as well as casual and seasonal workers not actively engaged in a job at the time of a census.

Work Force and Employment

It is essential to distinguish between 'work force' and 'employees' since *employment* statistics in this chapter relate mainly to wage and salary earners. Wage and salary earners, however, are only one component of the work force which also comprises employers, self-employed persons, unpaid helpers and unemployed persons. The category 'not at work' shown in the preceding table was first established in the 1947 Census and the comparison with earlier years is approximate only. For further details, see subsequent section headed 'Unemployment'. Data from the 1966 Census could not be included in the table because of a new method of collecting information in that year; the 1966 data is shown in the next section.

Work Force, 1966 Census

In the 1966 Census, a new set of questions (based on activity in the week before the Census) was asked to establish who should be included in the work force. The composition was as follows:

Elements of Work Force, 1966 Census

| At 30 June | Employer | Self-Employed | Employee | Unpaid Helper | Un-employed | Total in Work Force | Total Population |
|------------|----------|---------------|----------|---------------|-------------|---------------------|------------------|
| Males .. | 8,245 | 9,162 | 87,572 | 432 | 1,146 | 106,557 | 187,390 |
| Females .. | 1,759 | 1,644 | 35,451 | 940 | 971 | 40,765 | 184,045 |
| Persons .. | 10,004 | 10,806 | 123,023 | 1,372 | 2,117 | 147,322 | 371,435 |

The essential difference between the pre-1966 approach to work force and the 1966 approach was this: in pre-1966 censuses, people were invited to classify themselves (e.g. as unemployed, employee, etc.); in the 1966 Census, people were invited to describe their *activity* in a specific week and the Statistician, using pre-determined definitions, classified them on the basis of their answers.

Briefly, the new questions asked whether the person: (i) Had a job or business of any kind last week (even if temporarily absent from it)? (ii) Did any work at all last week for payment or profit? (Unpaid helpers who worked were to answer *yes*.) (iii) Was temporarily laid off by his employer without pay for the whole of last week? (iv) Looked for work last week? (Ways of 'looking for work' were specified on the Census form.)

The 1966 work force includes all persons answering *yes* to any one of these four questions. The effect of the new definition is to include additional persons in the work force. This applies particularly to those working part-time (sometimes for only a few hours a week), some of whom in 1961 may not have considered themselves as '... engaged in an industry, business, profession, trade or service.' The main difference in classification between the 1901-1961 table and the 1966 table is the substitution of the category 'unemployed' for the former category 'not at work'.

The total of persons recorded as unemployed in 1966 was compiled from persons answering *no* to questions (i), (ii) and (iii) and *yes* to question (iv).

Monthly Series of Employment Statistics

In this chapter, it is intended to show employment details as from June 1958. The series is based on comprehensive data (referred to as 'benchmarks') derived from the Censuses of June 1954 and June 1961. Figures for periods

between and subsequent to the two benchmark points of time are estimates obtained from three main sources, namely: (a) current pay-roll tax returns; (b) current returns from government bodies; (c) some other direct current records of employment (e.g. for hospitals). Data from these sources have been supplemented by estimates of the change in the number of wage and salary earners not covered by the foregoing collections. (The pre-1954 series used, as a benchmark, the Census of 1947.)

The benchmark figures are derived from particulars recorded for individuals on population census schedules, whereas the estimated monthly figures are derived mainly from reports supplied by employers, relating to enterprises or establishments. These two sources differ, in some cases, in scope and in reporting of industry; however, the industry dissection of the benchmark total has been adjusted, as nearly as may be, to an enterprise or establishment reporting basis. The industry classification used throughout the series is that of the Census of June 1961.

Pay-roll tax returns are lodged at present by all employers paying more than \$400 a week in wages (other than certain Commonwealth Government bodies, religious and benevolent institutions, public hospitals and other similar organisations specifically exempted under the *Pay-roll Tax Assessment Act 1941-1968*). At 30 June 1954 this Act required employers paying wages of more than \$160 a week to lodge returns. The exemption limit was raised to \$240 a week from 1 September 1954 and to the present level of \$400 a week as from 1 September 1957.

It should be noted employees in rural industry and in private domestic service are not included in the estimates because of the inadequacy of current data. The terms 'Employment', 'Number Employed', 'Employees' and 'Wage Earners' used throughout are synonymous with, and relate to, 'Wage and Salary Earners' on pay-rolls or in employment in the latter part of each month, as distinct from numbers of employees actually working on a specific date. They include some persons working part-time.

Figures for current months are subject to revision. As they become available, particulars of employment obtained from other Bureau collections, such as the annual factory census and the censuses and sample surveys of retail establishments, are used to check and, where necessary, to revise estimates in relevant sections. Now the results of the Census of 30 June 1966 are available it will be possible, with 1961 and 1966 benchmarks, to revise the series.

The following table gives estimated totals for employees in Tasmania at June and December of each year:

**Wage and Salary Earners in Civilian Employment, June and December
(Excluding Employees in Rural Industry and Private
Domestic Service, and Defence Forces)**
('000)

| Year | June | | | December | | |
|------------|-------|---------|---------|----------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| 1958 | 69.5 | 22.9 | 92.4 | 70.0 | 22.7 | 92.7 |
| 1959 | 70.4 | 23.2 | 93.6 | 71.8 | 23.7 | 95.5 |
| 1960 | 72.6 | 24.5 | 97.1 | 74.1 | 25.1 | 99.2 |
| 1961 | 73.2 | 24.9 | 98.1 | 73.6 | 24.8 | 98.4 |
| 1962 | 73.6 | 25.5 | 99.1 | 75.0 | 25.4 | 100.4 |
| 1963 | 74.9 | 25.5 | 100.4 | 76.9 | 26.7 | 103.6 |
| 1964 | 77.4 | 27.1 | 104.5 | 77.9 | 27.7 | 105.6 |
| 1965 | 78.4 | 28.1 | 106.5 | 80.4 | 29.5 | 109.9 |
| 1966 | 81.1 | 29.8 | 110.9 | 82.6 | 30.8 | 113.4 |
| 1967 | 82.7 | 30.9 | 113.6 | 83.7 | 31.4 | 115.1 |
| 1968 | 84.3 | 31.9 | 116.2 | .. | .. | .. |

The detailed study of employment trends requires examination of monthly figures, so the next table has been compiled to show totals of employees for each month:

**Wage and Salary Earners in Civilian Employment, Monthly Estimates
(Excluding Employees in Rural Industry and Private Domestic Service, and Defence
Forces) ('000)**

| Month | Males | | | Females | | | Persons | | |
|--------------|-------|------|------|---------|------|------|---------|-------|-------|
| | 1965 | 1966 | 1967 | 1965 | 1966 | 1967 | 1965 | 1966 | 1967 |
| January .. | 78.1 | 80.3 | 82.7 | 27.6 | 29.4 | 30.3 | 105.7 | 109.7 | 113.0 |
| February .. | 78.7 | 80.8 | 82.8 | 28.0 | 29.4 | 30.5 | 106.7 | 110.2 | 113.3 |
| March .. | 79.1 | 81.3 | 83.1 | 28.6 | 29.8 | 31.0 | 107.7 | 111.1 | 114.1 |
| April .. | 79.2 | 81.3 | 83.2 | 28.6 | 29.9 | 31.2 | 107.8 | 111.2 | 114.4 |
| May .. | 79.2 | 81.5 | 83.0 | 28.5 | 29.9 | 31.2 | 107.7 | 111.4 | 114.2 |
| June .. | 78.4 | 81.1 | 82.7 | 28.1 | 29.8 | 30.9 | 106.5 | 110.9 | 113.6 |
| July .. | 78.3 | 80.7 | 82.3 | 28.1 | 29.7 | 30.5 | 106.4 | 110.4 | 112.8 |
| August .. | 77.8 | 81.1 | 82.3 | 28.2 | 29.6 | 30.4 | 106.0 | 110.7 | 112.7 |
| September .. | 78.2 | 81.0 | 82.4 | 28.2 | 29.5 | 30.4 | 106.4 | 110.5 | 112.8 |
| October .. | 78.4 | 81.3 | 82.1 | 28.4 | 29.8 | 30.5 | 106.8 | 111.1 | 112.6 |
| November .. | 79.3 | 82.0 | 82.5 | 28.7 | 29.9 | 30.8 | 108.0 | 111.9 | 113.3 |
| December .. | 80.4 | 82.6 | 83.7 | 29.5 | 30.5 | 31.4 | 109.9 | 113.1 | 115.1 |

Civilian Employees of Government Bodies

In Tasmania, as in other Australian States, a relatively high proportion of wage and salary earners is employed by government bodies operating at four levels: Commonwealth, State, Local and Semi-Government (with the complication that semi-government authorities may have been created by either the Commonwealth or the State). For the purposes of these statistics, government employees include persons working on government services such as railways, tramways, banks, post offices, power and light, air transport, education (including universities), broadcasting, television, police, public works, government factories, departmental hospitals and institutions, etc., as well as those engaged in administrative services.

The following table shows the number of government employees in Tasmania according to the level of government:

**Civilian Employees of Government Bodies at 30 June
('000)**

| Year and Particulars | Level of Government | | | Total |
|----------------------------|--------------------------------|-------------------------|---------------------|-------|
| | Commonwealth Government (a) | State Government (a) | Local Government | |
| 1966—Males .. | 4.9 | 17.9 | 2.2 | 25.0 |
| | 1.5 | 4.8 | 0.2 | 6.5 |
| | 6.4 | 22.7 | 2.4 | 31.5 |
| 1967—Males .. | 4.9 | 18.0 | 2.3 | 25.3 |
| | 1.5 | 5.0 | 0.2 | 6.8 |
| | 6.4 | 23.1 | 2.5 | 32.1 |
| 1968—Males .. | 5.0 | 18.6 | 2.3 | 25.9 |
| | 1.5 | 5.3 | 0.3 | 7.1 |
| | 6.5 | 23.9 | 2.6 | 33.0 |

(a) Includes semi-government bodies.

The next table shows employees according to sector:

Total Civilian Employees of Private Employers and Government Bodies ('000)

| June | Males Employed By | | Females Employed By | | Persons Employed By | |
|------------|-------------------|-------------|---------------------|-------------|---------------------|-------------|
| | Private Employers | Govt Bodies | Private Employers | Govt Bodies | Private Employers | Govt Bodies |
| 1958 | 47.4 | 22.1 | 17.8 | 5.1 | 65.2 | 27.2 |
| 1959 | 48.1 | 22.3 | 18.0 | 5.2 | 66.1 | 27.5 |
| 1960 | 50.3 | 22.3 | 19.1 | 5.4 | 69.4 | 27.7 |
| 1961 | 51.3 | 21.9 | 19.4 | 5.5 | 70.7 | 27.4 |
| 1962 | 51.2 | 22.4 | 20.0 | 5.5 | 71.2 | 27.9 |
| 1963 | 51.7 | 23.2 | 19.6 | 5.9 | 71.3 | 29.1 |
| 1964 | 53.6 | 23.9 | 21.0 | 6.0 | 74.6 | 29.9 |
| 1965 | 54.1 | 24.4 | 21.7 | 6.3 | 75.8 | 30.7 |
| 1966 | 56.1 | 25.0 | 23.3 | 6.5 | 79.4 | 31.5 |
| 1967 | 57.3 | 25.3 | 24.1 | 6.8 | 81.4 | 32.1 |
| 1968 | 58.4 | 25.9 | 24.8 | 7.1 | 83.2 | 33.0 |

Industrial Classification of Employees

In the following table, wage and salary earners in civilian employment are classified according to industry:

Wage and Salary Earners in Civilian Employment: Industry Groups and Sub-Groups, June 1968

(Excluding Employees in Rural Industry and Private Domestic Service, and Defence Forces) ('000)

| Industry Group and Sub-Group | Males | Females | Persons |
|--|-------|---------|---------|
| Forestry, Fishing and Trapping | 1.0 | .. | 1.0 |
| Mining and Quarrying | 3.8 | 0.1 | 3.9 |
| Manufacturing | 26.7 | 6.9 | 33.5 |
| Electricity, Gas, Water and Sanitary Services | 3.5 | 0.3 | 3.8 |
| Building and Construction | 10.8 | 0.2 | 11.0 |
| Transport and Storage— | | | |
| Road Transport and Storage | 2.4 | 0.2 | 2.6 |
| Shipping and Stevedoring | 2.3 | 0.1 | 2.4 |
| Rail and Air Transport | 1.8 | 0.1 | 1.9 |
| Total | 6.4 | 0.4 | 6.8 |
| Communication | 3.0 | 0.8 | 3.8 |
| Finance and Property— | | | |
| Banking | 1.4 | 0.8 | 2.2 |
| Other | 1.5 | 1.1 | 2.6 |
| Total | 2.9 | 1.9 | 4.8 |
| Commerce— | | | |
| Retail Trade | 7.0 | 5.9 | 12.9 |
| Wholesale and Other Commerce | 5.7 | 0.9 | 6.6 |
| Total | 12.7 | 6.8 | 19.5 |
| Public Authority Activities (n.e.i.) | 4.8 | 1.6 | 6.3 |
| Other Industries— | | | |
| Health, Hospitals, etc. | 1.5 | 4.8 | 6.3 |
| Education | 2.7 | 3.9 | 6.6 |
| Amusement, Hotels, Personal Service, etc. | 2.2 | 2.9 | 5.1 |
| Other (a) | 2.4 | 1.3 | 3.6 |
| Total | 8.7 | 12.9 | 21.6 |
| Grand Total | 84.3 | 31.9 | 116.2 |

(a) Comprises Law, Order and Public Safety; Religion and Social Welfare; Other Community and Business Services.

The analysis of wage and salary earners by industry groups clearly indicates 'manufacturing' as the predominant activity. Unfortunately, employees in rural industry are excluded from the series so it is not possible to compare employment in primary, secondary and tertiary industries on the basis of the data appearing in the table. ('Employment on Rural Holdings' is described in Chapter 6 but the seasonal character of this work makes it difficult to estimate the level of rural employment in any given month.) Attention is drawn to the relatively minor level of employment in 'Public Authority Activities (n.e.i.)'; the civilian employees of government bodies shown in a previous table have been classified according to their appropriate industry group (e.g. transport, communication, health, education, etc.) and only those not included in a specified group appear in this item.

Industrial Classification of the Work Force and of Employees

The Census of 30 June 1966 provides an analysis of the total work force (including those engaged in rural industry); the percentage in each broad category was as follows: *primary production* (fishing, hunting, rural industries, forestry), 11.69; *mining and quarrying*, 2.29; *manufacturing*, 23.05; *electricity, gas, water and sanitary services*, 2.72; *building and construction*, 9.70; *transport and storage*, 6.01; *communication*, 2.64; *finance and property*, 3.10; *commerce (wholesale and retail)*, 15.59; *public authority (n.e.i.) and defence services*, 3.73; *community and business services (including professional)* (e.g. schools, hospitals, etc.), 11.87; *amusement, hotels and other accommodation, cafes, personal service, etc.*, 5.62; *industry not stated*, 1.99; *total*, 100.00.

As previously explained, wage and salary earners are only one part of the work force but the analysis in the previous paragraph indicates the importance of tertiary industry in today's community. If the *primary* group is combined with *mining and quarrying*, only 14 per cent of the work force was engaged in the extraction of raw materials; a further 23 per cent was engaged in manufacturing. In other words, less than 40 per cent of the work force was engaged in primary and secondary industries as defined for statistical purposes.

The next table specifies the main industrial groups and shows the industrial classification of *civilian employees* at annual intervals:

Wage and Salary Earners in Civilian Employment: Main Industry Groups

(Excluding Employees in Rural Industry and Private Domestic Service, and Defence Forces)

(‘000)

| June | Mining and Quarrying | Manufacturing (a) | Building and Construction | Transport, Storage and Communication | Retail Trade | Wholesale Trade, etc.; Finance, Property | Public Authority (n.e.i.); Community Services, etc. (b) | Amusement, Hotels, Personal Service, etc. |
|-------|----------------------|----------------------|---------------------------|--------------------------------------|--------------|--|---|---|
| MALES | | | | | | | | |
| 1963 | 3.2 | 23.5 | 9.9 | 9.1 | 6.5 | 7.7 | 9.2 | 1.8 |
| 1964 | 3.1 | 24.1 | 10.1 | 9.3 | 6.8 | 8.3 | 9.5 | 1.9 |
| 1965 | 3.1 | 24.5 | 10.1 | 9.2 | 6.9 | 8.3 | 10.0 | 1.9 |
| 1966 | 3.1 | 25.5 | 10.7 | 9.4 | 6.8 | 8.5 | 10.6 | 2.0 |
| 1967 | 3.2 | 26.2 | 11.1 | 9.3 | 6.6 | 8.6 | 10.9 | 2.1 |
| 1968 | 3.8 | 26.7 | 10.8 | 9.4 | 7.0 | 8.6 | 11.3 | 2.2 |

Wage and Salary Earners in Civilian Employment: Main Industry Groups

(Excluding Employees in Rural Industry and Private Domestic Service, and Defence Forces)—*continued*
('000)

| June | Mining and Quarrying | Manufacturing (a) | Building and Construction | Transport, Storage and Communication | Retail Trade | Wholesale Trade, etc.; Finance, Property | Public Authority (n.e.i.); Community Services, etc. (b) | Amusement, Hotels, Personal Service, etc. |
|---------|----------------------|-------------------|---------------------------|--------------------------------------|--------------|--|---|---|
| FEMALES | | | | | | | | |
| 1963 | 0.1 | 5.2 | 0.1 | 1.1 | 5.0 | 2.2 | 9.3 | 2.2 |
| 1964 | 0.1 | 5.8 | 0.2 | 1.1 | 5.2 | 2.3 | 9.6 | 2.5 |
| 1965 | 0.1 | 5.9 | 0.2 | 1.2 | 5.4 | 2.4 | 10.0 | 2.6 |
| 1966 | 0.1 | 6.6 | 0.2 | 1.2 | 5.7 | 2.6 | 10.5 | 2.7 |
| 1967 | 0.1 | 6.9 | 0.2 | 1.2 | 5.7 | 2.6 | 11.0 | 2.9 |
| 1968 | 0.1 | 6.9 | 0.2 | 1.2 | 5.9 | 2.8 | 11.6 | 2.9 |
| PERSONS | | | | | | | | |
| 1963 | 3.3 | 28.7 | 10.1 | 10.2 | 11.5 | 9.9 | 18.5 | 4.0 |
| 1964 | 3.2 | 29.9 | 10.3 | 10.4 | 12.0 | 10.6 | 19.1 | 4.4 |
| 1965 | 3.2 | 30.4 | 10.3 | 10.4 | 12.3 | 10.7 | 20.0 | 4.5 |
| 1966 | 3.2 | 32.1 | 10.9 | 10.7 | 12.5 | 11.1 | 21.1 | 4.7 |
| 1967 | 3.3 | 33.1 | 11.3 | 10.6 | 12.4 | 11.1 | 22.0 | 5.0 |
| 1968 | 3.9 | 33.5 | 11.0 | 10.6 | 12.9 | 11.4 | 22.8 | 5.1 |

(a) Includes employees engaged in selling and distribution, etc. as well as those occupied directly in manufacturing activities.

(b) Includes Law and Order, Religion and Social Welfare, Health Services, Education and Other Community and Business Services.

UNEMPLOYMENT

Historical

The total of persons 'unemployed' has been recorded by the Bureau of Census and Statistics at the dates of successive population censuses. The measurement of unemployment is complicated by definitional problems since persons normally in the work force, but not having a job at the time of a census, may be in this position for reasons other than those associated with scarcity of employment. The following table records data from the Censuses of 1921 and 1933:

Work Force and Unemployment, Censuses of 1921 and 1933

| Particulars | Census, 4 April 1921 | | | Census, 30 June 1933 | | |
|---|----------------------|---------|---------|----------------------|---------|------------|
| | Males | Females | Persons | Males | Females | Persons |
| Work Force (a) .. | 65,998 | 14,001 | 79,999 | 69,226 | 16,861 | 86,087 |
| 'Unemployed' .. | 3,606 | 510 | 4,116 | 10,226 | 1,442 | (b) 11,668 |
| 'Unemployed' as Percentage of Work Force .. | 5.5 | 3.6 | 5.1 | 14.8 | 8.6 | 13.6 |

(a) Comprises employers, self-employed, employees, helpers and unemployed.

(b) Excludes 4,944 persons (4,193 males) employed part-time, including those on sustenance or relief work. Such persons were classified as employees.

Those describing themselves as unemployed were further invited to state the cause. The result from the Census of 1933 is quoted below:

Causes of Unemployment, Census of 30 June 1933

| Cause of Unemployment | Number | | | Proportion of Total (Per cent) | | |
|---------------------------|--------|---------|---------|--------------------------------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| Scarcity of Employment .. | 8,883 | 1,002 | 9,885 | 86.9 | 69.5 | 84.7 |
| All Other Causes (a) | 1,343 | 440 | 1,783 | 13.1 | 30.5 | 15.3 |
| Total .. | 10,226 | 1,442 | 11,668 | 100.0 | 100.0 | 100.0 |

(a) Includes sickness, accident, industrial dispute, voluntarily idle and cause not stated.

From the 1947 Census onwards, the enquiry was broadened to include all persons (usually engaged in industry, business, trade, profession or service) who were out of a job and 'not at work' at the time of the census for whatever reason, including reasons not normally associated with unemployment.

'Not at Work'

In the next table, a summary is made of data from the Censuses of 1947, 1954 and 1961, the principal comparison being the respective levels of the work force and of those classified 'Not at Work'.

As previously defined, 'Not at Work' includes those who stated that they were usually engaged in work but were not actively seeking a job at the time of the census by reason of sickness, accident, etc. or because they were on strike, changing jobs or temporarily laid off, etc. It includes also persons able and willing to work but unable to secure employment, as well as casual and seasonal workers not actually in a job at the time of the census. The numbers shown as 'Not at Work', therefore, do not represent the number of unemployed available for work and unable to obtain it.

The term 'Not at Work' does not apply to those who had a job but happened to be absent from it at census date due to sickness or leave.

Work Force and Persons 'Not at Work'
Censuses of 1947, 1954 and 1961

| 30 June | Work Force (a) | Persons 'Not at Work' | |
|---------------|----------------|-----------------------|------------------------------------|
| | | Number | Proportion of Work Force (Percent) |
| 1947—Males .. | 80,201 | 1,867 | 2.3 |
| | Females .. | 481 | 2.4 |
| | Persons .. | 2,348 | 2.3 |
| 1954—Males .. | 93,976 | 1,215 | 1.3 |
| | Females .. | 279 | 1.2 |
| | Persons .. | 1,494 | 1.3 |
| 1961—Males .. | 101,289 | 3,194 | 3.2 |
| | Females .. | 896 | 3.0 |
| | Persons .. | 4,090 | 3.1 |

(a) Comprises employers, self-employed, employees, helpers and those 'not at work'.

'Unemployed' (1966)

In the 1966 Census, the following new question was asked: Did the person look for work last week? Answer yes or no. (Note: 'Looking for work' means (i) being registered with the Commonwealth Employment Service, or (ii) approaching prospective employers, or (iii) placing or answering advertisements, or (iv) writing letters of application, or (v) awaiting the result of recent applications.)

After the exclusion of persons who were already employed, but who were seeking alternative employment, the following data were obtained from this new approach:

Work Force and Unemployed Persons, 1966 Census

| 30 June | Work Force | Unemployed | |
|---------------|------------|------------|------------------------------------|
| | | Number | Proportion of Work Force (Percent) |
| Males | 106,557 | 1,146 | 1.1 |
| Females | 40,765 | 971 | 2.4 |
| Persons | 147,322 | 2,117 | 1.4 |

It should be noted that 'not at work' in the 1947-1961 table is different in concept from the 'unemployed' category in the 1966 table.

Registrations With Commonwealth Employment Service

The Commonwealth Employment Service (C.E.S.) was established by Federal legislation under Section 47 of the *Re-establishment and Employment Act* 1945, and under the *Social Services Legislation Declaratory Act* 1947. The principal function of this service is to provide facilities in relation to employment for the benefit of persons seeking to change or obtain employment, or seeking to engage labour, and to provide facilities to assist in bringing about a high and stable level of employment throughout the Commonwealth.

The C.E.S. functions within the Employment Division of the Department of Labour and National Service on a decentralised basis. The central office is in Melbourne and there is a regional office in Hobart with district employment offices in Hobart, Launceston, Devonport and Burnie, and agencies at Smithton and Huonville.

All applicants for unemployment benefits provided under the Commonwealth *Social Services Act* 1947-1968 must register at a district employment office or agency of the C.E.S. which is responsible for certifying whether or not suitable employment is available. Claims for unemployment benefits are paid by the Department of Social Services; country residents remote from an employment office or agency may claim by mail.

The establishment of the C.E.S. created two new methods of measuring fluctuations in unemployment:

- (1) the number of persons registered for employment with the C.E.S. at the end of each month; and
- (2) the number of persons receiving unemployment benefit from the Department of Social Services at the end of each month.

'Registered for Employment'

In the following table, the persons shown are those who claimed, when registering with the C.E.S., that they were not employed and who were recorded

on the last Friday in the month as unplaced. The count includes those referred to employers and those who may have obtained employment without notifying the C.E.S.; persons receiving unemployment benefit are included.

**Persons Registered for Employment With Commonwealth Employment Service
At June and December of Each Year (a)**

| Year | On Register, June (a) | | | On Register, December (a) | | |
|-----------|-----------------------|---------|---------|---------------------------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| 1958 .. . | 1,568 | 663 | 2,231 | 1,086 | 589 | 1,675 |
| 1959 .. . | 1,373 | 736 | 2,109 | 1,108 | 726 | 1,834 |
| 1960 .. . | 1,389 | 815 | 2,204 | 1,581 | 1,371 | 2,952 |
| 1961 .. . | 2,328 | 885 | 3,213 | 3,136 | 2,150 | 5,286 |
| 1962 .. . | 2,476 | 1,133 | 3,609 | 2,956 | 2,356 | 5,312 |
| 1963 .. . | 2,112 | 1,315 | 3,427 | 2,713 | 2,210 | 4,923 |
| 1964 .. . | 1,812 | 1,156 | 2,968 | 1,860 | 1,598 | 3,458 |
| 1965 .. . | 1,260 | 975 | 2,235 | 1,426 | 1,350 | 2,776 |
| 1966 .. . | 849 | 846 | 1,695 | 1,447 | 1,260 | 2,707 |
| 1967 .. . | 1,157 | 959 | 2,116 | 1,716 | 1,348 | 3,064 |
| 1968 .. . | 1,145 | 943 | 2,088 | .. | .. | .. |

(a) Recorded as unplaced on the Friday nearest the last day of the month.

In interpreting the level of registration, account should be taken of the fact that registration is a *voluntary act*. Thus, whilst an increase in registrations may normally be taken to indicate an increase in unemployment, theoretically, at least, it could merely indicate wider use of the facilities offered by the C.E.S.

The table that follows has been compiled to show the number registered for employment at the end of each month. The monthly figures are subject to pronounced seasonal influences, the most obvious being the effect of school-leavers on registration in December and January.

**Persons Registered for Employment With Commonwealth Employment Service
At End of Each Month**

| Month (a) | 1966 | | | 1967 | | | 1968 | | |
|----------------|-------|---------|---------|-------|---------|---------|-------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons | Males | Females | Persons |
| January .. . | 1,408 | 1,356 | 2,764 | 1,570 | 1,452 | 3,022 | 1,679 | 1,494 | 3,173 |
| February .. . | 1,004 | 1,319 | 2,323 | 1,456 | 1,408 | 2,864 | 1,114 | 1,276 | 2,390 |
| March .. . | 531 | 851 | 1,382 | 913 | 1,107 | 2,020 | 714 | 921 | 1,635 |
| April .. . | 628 | 746 | 1,374 | 807 | 952 | 1,759 | 733 | 981 | 1,714 |
| May .. . | 700 | 737 | 1,437 | 1,059 | 883 | 1,942 | 1,017 | 905 | 1,922 |
| June .. . | 849 | 846 | 1,695 | 1,157 | 959 | 2,116 | 1,145 | 943 | 2,088 |
| July .. . | 1,018 | 811 | 1,829 | 1,347 | 869 | 2,216 | 1,117 | 816 | 1,933 |
| August .. . | 957 | 762 | 1,719 | 1,260 | 893 | 2,153 | 1,195 | 826 | 2,021 |
| September .. . | 871 | 784 | 1,655 | 1,214 | 882 | 2,096 | 1,066 | 826 | 1,892 |
| October .. . | 881 | 773 | 1,654 | 933 | 805 | 1,738 | 1,058 | 758 | 1,816 |
| November .. . | 874 | 783 | 1,657 | 961 | 1,000 | 1,961 | .. | .. | .. |
| December .. . | 1,447 | 1,260 | 2,707 | 1,716 | 1,348 | 3,064 | .. | .. | .. |

(a) At Friday nearest last day of month.

Persons Receiving Unemployment Benefit

It is possible for a person to register as unemployed but make no claim for unemployment benefit. On the other hand, a person claiming unemployment benefit is required to register for employment. The next table gives details of persons receiving unemployment benefit each month:

Monthly Number of Persons Receiving Unemployment Benefit (a)

| Month (a) | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|--------------|-------|-------|-------|-------|------|------|------|------|
| January .. | 291 | 1,385 | 1,186 | 1,191 | 876 | 404 | 452 | 536 |
| February .. | 323 | 1,225 | 1,093 | 1,159 | 828 | 312 | 388 | 474 |
| March .. | 366 | 913 | 964 | 885 | 542 | 217 | 334 | 361 |
| April .. | 689 | 1,093 | 1,106 | 907 | 538 | 219 | 315 | 396 |
| May .. | 998 | 1,199 | 1,272 | 1,171 | 728 | 311 | 380 | 456 |
| June .. | 1,336 | 1,778 | 1,777 | 1,399 | 926 | 433 | 526 | 635 |
| July .. | 1,814 | 1,937 | 1,995 | 1,702 | 937 | 512 | 597 | 642 |
| August .. | 2,023 | 2,018 | 1,948 | 1,732 | 813 | 494 | 620 | 667 |
| September .. | 2,182 | 1,827 | 1,939 | 1,595 | 763 | 470 | 533 | 615 |
| October .. | 1,673 | 1,588 | 1,669 | 1,395 | 557 | 453 | 419 | 565 |
| November .. | 1,575 | 1,580 | 1,447 | 1,115 | 484 | 404 | 432 | .. |
| December .. | 1,398 | 1,432 | 1,173 | 1,060 | 465 | 434 | 536 | .. |

(a) Number at the last Saturday of month. Source, Department of Social Services.

The number of males and females in receipt of unemployment benefit is shown for June of each year:

Persons Receiving Unemployment Benefit (a) At June.

| Particulars | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|-------------|-------|-------|-------|-------|------|------|------|------|
| Males .. | 1,060 | 1,343 | 1,123 | 905 | 517 | 224 | 325 | 334 |
| Females .. | 276 | 435 | 654 | 494 | 409 | 209 | 201 | 301 |
| Persons .. | 1,336 | 1,778 | 1,777 | 1,399 | 926 | 433 | 526 | 635 |

(a) Number at the last Saturday of June in each year. Source, Department of Social Services.

Comparison of Unemployment Data

The following table shows those classified as 'Not at Work' at the Census of 1961, those unemployed at the Census of 1966 and also other measures:

Unemployed Persons, Persons Registered for Employment and Persons Receiving Unemployment Benefit, 1961 and 1966

| Particulars | June 1961 | | | June 1966 | | |
|---------------------------------|-----------|---------|---------|-----------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| CENSUS OF 30 JUNE | | | | | | |
| Unable to Secure Employment (a) | 2,085 | 507 | 2,592 | 1,146 | 971 | 2,117 |
| Temporarily Laid Off .. | 376 | 81 | 457 | .. | .. | .. |
| Illness .. | 398 | 156 | 554 | .. | .. | .. |
| Accident .. | 106 | 10 | 116 | .. | .. | .. |
| Industrial Dispute .. | 4 | 1 | 5 | .. | .. | .. |
| Other .. | 225 | 141 | 366 | .. | .. | .. |
| Total 'Not at Work' .. | 3,194 | 896 | 4,090 | .. | .. | .. |

DEPARTMENT OF LABOUR AND NATIONAL SERVICE (b)

| | | | | | | |
|----------------------------------|-------|-----|-------|-----|-----|-------|
| Registered for Employment (b) .. | 2,328 | 885 | 3,213 | 849 | 846 | 1,695 |
|----------------------------------|-------|-----|-------|-----|-----|-------|

DEPARTMENT OF SOCIAL SERVICES (c)

| | | | | | | |
|---------------------------------------|-------|-----|-------|-----|-----|-----|
| Receiving Unemployment Benefit (c) .. | 1,060 | 276 | 1,336 | 224 | 209 | 433 |
|---------------------------------------|-------|-----|-------|-----|-----|-----|

(a) Figures for 1966 correspond with 'unemployed'.

(b) At Friday nearest last day of June.

(c) At last Saturday of June.

The comparison for 1954 was as follows: (i) 'unable to secure employment' (Census): males, 329; females, 74; (ii) registered for employment: males, 438; females, 117; (iii) receiving unemployment benefit: males, 96; females, 13. Totals for the three categories just listed were: (i) 403 persons; (ii) 555 persons; (iii) 109 persons.

INDUSTRIAL LEGISLATION AND CONDITIONS

Apprenticeship

Apprenticeship Commission: The *Apprentices Act 1942* set up a statutory authority, the Commission to: (i) encourage, regulate and control training in proclaimed trades; (ii) assist youths towards successful trade courses; and (iii) provide properly trained craftsmen for industry. The Commission, which meets each month, consists of two representatives of trades unions, two of employers' organisations and the President, all members being appointed for a three years' term. To keep the Commission up-to-date with the latest developments, Trade Advisory Committees have been formed for particular industries, with employers and employees each represented.

Apprentices are trained at work and at technical classes, and supervisors report on the effectiveness of the training; supervisors also give on-the-spot advice to employers and apprentices where their mutual obligations are concerned and refer matters that cannot be settled in this way to the Commission for decision.

Apprenticeships: An applicant must be at least 15 years of age and must have the educational qualifications deemed necessary for apprenticeship in the chosen trade; the Commission has the right to decide if an employer is suitable for training apprentices and no apprenticeship may be commenced without its consent.

The apprentice serves a probationary period before a contract (indentures) is made with the employer, and registered with the Commission. The Commission determines disputes about the contracting parties' rights, duties and liabilities and no apprenticeship may be terminated, suspended or assigned other than by its authority; when an apprenticeship has been completed, the employer and the Commission certify to this effect. Where apprentices are required to undertake technical training, either at technical classes or by correspondence, instruction is mandatory. Apprentices attend technical classes for eight hours per week during working hours without loss of pay. The progress apprentices make is conveyed to the Commission by employers' annual reports and technical colleges' terminal reports; unsatisfactory reports are investigated.

Apprentices are encouraged in the following ways: (i) by payment of *efficiency allowances* for annual examinations passed successfully in the allotted time; (ii) by *certificates of efficiency* for apprentices successfully completing the mandatory trade course of technical instruction; (iii) by reducing the apprenticeship term by one year, in some cases, where the qualifying trade course is completed in the allotted time; (iv) by the award of bursaries.

Four bursaries (two \$300, two \$150) are awarded each year to outstanding apprentices, and a fifth bursary (\$450) is awarded to 'The Apprentice of the Year'. These bursaries are given to assist the most promising apprentices secure wider trade experience with another employer as part of the apprenticeship training, either in Tasmania, or another State. Arrangements are made by the Commission to suit the bursary holders' wishes.

Numbers of Apprentices: The following table shows the number of apprentices in Tasmania and also details of new apprenticeships registered and apprenticeships completed:

| Numbers of Apprentices | | | | |
|--------------------------------|-------|---------|---------|---------|
| Details | | 1964-65 | 1965-66 | 1966-67 |
| Number at 30 June (a)— | | | | |
| Indentured Apprentices | .. .. | 2,952 | 3,046 | 3,268 |
| Apprentices on Probation | .. .. | 444 | 466 | 364 |
| Total | .. .. | 3,396 | 3,512 | 3,632 |
| During Year— | | | | |
| New Apprenticeships Registered | .. | 791 | 902 | 1,049 |
| Apprenticeships Completed | .. | 548 | 628 | 645 |

(a) Distributed in proclaimed trades; approximately 130 had been proclaimed at 30 June 1967.

Industrial Accidents

Source of Statistics: Industrial accident statistics in Tasmania are compiled from returns submitted under the *Workers' Compensation Act* by insurance companies, self-insurers and State Government departments. Among workers excluded from coverage are employees of the Commonwealth, police officers and self-employed persons. (See 'Workers' Compensation' later in this chapter.)

Definition: An industrial accident is defined as a work injury causing either death, or absence of the injured person from work for one day or more. For statistical purposes, an accident causing injury to more than one person is counted as more than one accident.

Accidents: In 1966-67, there were 8,853 industrial accidents of which 37 were fatal; 8,181 involved males and 672 involved females. The total time lost from non-fatal accidents amounted to 17,138 weeks of five days (or approximately 350 'worker years').

The most common accident factors in the case of males were: manual handling, 36.8 per cent; persons falling, slipping, stepping or striking against objects, 23.7 per cent; falling objects, earth and flying objects, 15.0 per cent.

Claims and Premiums: In 1966-67, insurers under the *Workers' Compensation Act* paid \$2.70m in premiums. Insurance companies paid out \$1.97m in claims.

Industrial Safety and Accident Prevention

Responsibility: The Department of Labour and Industry is concerned with industrial safety and accident prevention, and discharges this function with the knowledge that there are over 8,000 accidents involving lost time each year among the population covered by the *Workers' Compensation Act*.

Cause of Industrial Accidents: Two major factors are held to underly most industrial accidents, namely (i) unsafe working conditions; (ii) unsafe actions; in some accidents, both factors may be operative.

Prevention: Prevention obviously has a two-fold aspect: (i) inspection programmes aimed at pin-pointing unsafe working conditions; (ii) education and training designed to eliminate unsafe actions.

Training: The problem of training is basically one of educating supervisors and foremen since an attitude of 'safety consciousness' has to start with management. Formal training in industrial safety and accident prevention can

be had at Hobart and Launceston Technical Colleges in two-year four-subject courses. Informal training is arranged by the Department of Labour and Industry, the two-day courses available being based on the concept of 'training within industry'. Single lectures on industrial and farm safety are also available and the Department makes arrangements to provide lecturers on request.

Safety Officers: It is expected that large undertakings will have their own specialists concerned with safety matters. However, government safety officers are available to industries which may use their services for a short period. Their function is purely advisory and they assist organisations which wish to stress safety or to reduce their accident rates.

Research Facilities: The Department carries out a safety research programme. A comprehensive classification of safety data and information is maintained from local, interstate and overseas sources.

Workers' Compensation

Legislation: Workers' compensation legislation in Tasmania was first introduced in 1910 but it was not until 1927 that the Parliament introduced the principle of compulsory insurance against the risk of personal injury being caused to workers in the course of their employment. The machinery for compulsory insurance and compensation is embodied in the *Workers' Compensation Act 1927*, as amended.

Purpose and Limitations: The principle of the Act is provision for compensation on the death or disablement of a worker, if occasioned by personal injury caused in the course of employment. In 1966, the Act was amended to extend compensation cover for injuries sustained by a worker travelling in either direction between his residence and place of employment. The Act provides that this cover to and from work applies only for reasonably direct journeys, except for breaks or deviations connected with the worker's employment. Self-inflicted injuries are excluded and certain limitations are applied where serious or wilful misconduct is involved.

Monetary benefits have fixed limits. Over and above weekly payments during incapacity and any lump sum entitlement for scheduled injuries, all reasonable costs of medical, hospital, nursing and ambulance services, and in the event of death, the reasonable costs of burial or cremation, are paid up to a maximum of \$2,500.

Non-Contributory Basis: The Act is non-contributory, i.e. the worker does not pay into any fund for the provision of benefits. The employer is obliged to insure with an approved insurance company against the liability to compensation, except in certain cases where he is allowed to carry his own risk.

In any case where an employer has no paid up insurance policy, where the employer cannot be found or where the employer or his insurance company has become insolvent, the worker may claim against a 'nominal insurer' as if he were the employer.

Amounts paid by the 'nominal insurer' are provided by all insurance companies carrying on Workers' Compensation business in the State. Each company is required to contribute to these types of claim in proportion to the premium income derived from policies effected under the Act during the preceding year.

Compensation on Death: Where death results from an injury, the compensation payable to dependants wholly dependent on the worker's earnings is 284 times the current Hobart base rate, plus seven times the current Hobart

base rate for each worker's child under 16 years at the date of injury. Partial dependants are entitled to proportionate amounts. ('Current', in this context, means the base rate at the time of injury.)

Base Rate means an amount 40 cents below the minimum weekly wage payable to an unskilled adult male employed at Hobart under the Federal Metal Trades Award (in June 1968, the minimum was \$38.15).

Weekly Payments During Incapacity: When the worker is totally incapacitated, the following weekly payments apply: (i) in respect of the worker—70 per cent of the base rate; (ii) in respect of a dependent wife—17 per cent of the base rate; (iii) in respect of a dependent child under 16 (or a full-time student under 21)—nine per cent of the base rate. The application of these formulae, however, is subject to restrictions set out in the next section headed 'Maximum Limits of Weekly Payments'.

When a worker is partially incapacitated, he receives the rates appropriate to total incapacity reduced by application of the following factor:

Loss of Weekly Earnings. (Average weekly earnings', in this context, refers to his earnings before the date when the injury was sustained.)

Maximum Limits of Weekly Payments: The worker's average weekly earnings before injury are taken into account in fixing maximum weekly compensation payments, the formulae being as follows (with B as base rate):

- (i) worker's average weekly earnings not greater than $B \times 1.20$; maximum payment not to exceed 85 per cent of his average weekly earnings;
- (ii) worker's average weekly earnings between $B \times 1.20$ and $B \times 1.36$; maximum payment not to exceed the base rate plus two per cent;
- (iii) worker's average weekly earnings greater than $B \times 1.36$; maximum payment not to exceed 75 per cent of his average weekly earnings.

In cases of the partial or total incapacity of any worker, the total liability of an employer in making weekly compensation payments is limited to 284 times the current Hobart base rate.

Lump Sum Payments: In addition to weekly incapacity payments, lump sum payments are made in respect of the loss of members of the body or of bodily powers or functions. In the Act, specific injuries are listed and the single amount payable is related to the current Hobart base rate (specified as B in the following examples): (i) loss of both feet, $B \times 284$; (ii) loss of leg, $B \times 138$; (iii) loss of thumb, $B \times 51$; (iv) loss of great toe, $B \times 35$, etc. Where more than one of these injuries are suffered in the same accident, a maximum payment equal to $B \times 532$ may be paid.

New Legislation: A select committee of the Legislative Council was expected to report on amending legislation late in 1968.

Factory Legislation and Inspection

Legislation: Working conditions in factories in Tasmania are covered under the *Factories, Shops and Offices Act 1965* as amended which makes provision with respect to the health, welfare, safety, and working conditions of persons employed in factories, shops, and offices and the sanitation of factories, shops, and offices, and, until 1968, matters such as trading hours of shops, etc. Factories are designated in two classes: (a) premises in which four or more persons including the occupier are employed ('occupier' in this context may mean the employer, manager, foreman, agent or other person apparently in charge); (b) a small factory where less than four are employed.

Registration Fees: All factories are required to register with the Department of Labour and Industry; fees date from 1 January each year. Fees for registration range from \$2 for small factories, up to \$40 for factories employing one hundred persons, and \$20 for each additional hundred.

New Factories: The *Local Government Act* requires that plans and specifications for proposed new factory buildings be submitted to the Department of Labour and Industry before being approved by the local government authority. This ensures compliance of the proposed factory buildings with regulations in regard to natural lighting, ventilation, fire exits, fire protection, stairs, access ladders, platforms, sanitary conveniences, washing facilities, change and meal rooms and general safety.

Application for Registration: Following application to the Secretary for Labour for registration of premises to be used as a factory, an inspection is made. If the premises are suitable without alteration, a certificate of registration is issued. If alterations are required, a permit to occupy may be issued for a limited time, whilst renovations, to comply with the Act's requirements, are made. Once the factory is operating, a further inspection is made to study processes and working conditions. Any unsafe situations and practices are drawn to the attention of management.

Inspection: After the initial registration, routine inspections are made at least once a year by officers of the Department, to remedy or prevent unsafe conditions or unsafe practices which may have developed. Particular attention is given to overcrowding, ventilation, natural and artificial lighting, conditions of floors, etc. Access ladders and platforms are checked for compliance with prescribed standards. If contamination of the atmosphere by dust or toxic fumes is present, means of removal are studied. Safe handling and storage of dangerous substances; the provision of fire protection, fire exits, escapes and exit drills; adequacy of sanitary conveniences, washing, change and meal rooms; the provision of safety equipment, etc. require periodic checking.

Accident Reports: Where accidents involving the use of machinery incapacitate workers for seven days or more, factory management is required to notify the Department. These accidents are investigated in an endeavour to eliminate recurrences. See 'Industrial Safety and Accident Prevention' in this chapter.

Construction Sites: Regulations also apply to working conditions on construction works and provide for suitable sanitary, washing and general amenities, in addition to general safety precautions. Where persons are required to work on any construction works at a height of not less than 20 feet above the ground or at a depth of not less than five feet below ground level, the provision of safety helmets is compulsory.

The Inspection of Machinery

Legislation: Generally, the *Inspection of Machinery Act 1960* as amended applies to all machinery of one or more horsepower used in manufacturing or industrial processes. Machines not covered by the Act may be made subject to the Act by proclamation. The Act specifically includes boilers, pressure vessels, lifts and cranes. The Department of Labour and Industry is responsible for application of the Act which is administered by a chief inspector and district inspectors at Hobart, Launceston and Burnie.

Machinery Inspection: An owner (defined in the Act as a person, not necessarily the owner, who has the control of or is in charge of machinery) acquiring machinery as defined in the Act is required to notify the nearest district

inspector to obtain a certificate of safety. Inspection may reveal the need for additional safeguards before permission can be given to operate the machine; alternatively the owner may be given a set period in which to comply.

All machinery subject to the Act is inspected annually, and all safeguards checked for efficient working and adherence to safety standards. Defects are pointed out to the management and, where necessary, formal notice may be served. If the inspection is satisfactory or, alternatively, when the defects are remedied, the certificate of safety is renewed. In addition to routine inspections, special investigations may arise from accidents, union representations or modifications to machinery already certified.

Lifts Inspection: Lifts, cranes and hoists, from an inspection point of view, are treated as machinery but there is the additional requirement that design approval must be obtained before construction begins; tests, including beam deflections under load, are made on completion. The standards set are those specified by the Standards Association of Australia.

Boilers Inspection: Before boilers or pressure vessels are installed, the design must be approved by the Chief Inspector and conform with specified Australian or overseas standards. Inspections are made on installation and thereafter annually, unless a special investigation is required arising from plant modification, accidents or from employers' or employees' requests. The operator of pressure plant must hold a certificate of competency.

Shop Trading Hours

Introduction

The first Tasmanian *Shops Act* 1911 regulated hours of trading, introduced a five and a half day shopping week and limited working hours for females and children. Amendments to the *Shops Act* 1925 (made in 1937) had the effect of introducing a five-day shopping week into the City of Hobart and the Municipality of Glenorchy; in the rest of the State, the five and a half day shopping week continued.

Extension of Saturday Closing

The *Factories Shops and Offices Act* 1958, as amended in 1965, extended Saturday shop-closing to those areas of the municipalities of Clarence and Kingborough within six miles radius of Hobart G.P.O. This enlargement of the area of Saturday closing operated from 1 January 1966 and was to expire on 31 December 1967 unless new legislation continued it. Due to a deadlock between the two houses of the Tasmanian Parliament in December 1967, the only legislation upon which agreement could be reached was for the continued rostering of petrol stations and, as from 1 January 1968, all restrictions on shop trading hours ceased.

Pre-1968 Position

Under the Act still operating in 1967, trading was allowed for shops *not subject to special provisions* from 6 am to 6 pm Mondays to Thursdays, 6 am to 9 pm on Fridays throughout the State, and, outside the Hobart zone, on Saturday mornings from 6 am until noon.

In practice, most of the larger establishments were open only 45 hours a week; in Hobart from 9 am to 6 pm five days a week; in Launceston, 9 am to 5.30 pm five days a week and from 9 am to 11.30 am on Saturdays. Supermarkets throughout the State tended to remain open until 9 pm on Friday evenings.

Special hours of trading were prescribed for small shops (upper limit, a shopkeeper and two other persons); chemists; eating houses; newsvendors; butchers; and shops selling exempted goods. In some cases, unrestricted trading was allowed, e.g. cafes selling only exempted goods, and small shops.

Position in 1968

Despite the lapse of all restrictions from 1 January 1968, there has been little evidence of shopkeepers varying their trading hours; nor, in the Hobart zone, is there any sign of a return to general Saturday morning trading. The Saturday closing tradition in most of the zone dates from 1937, and the explanation appears to be that Hobartians, as shopkeepers, shop assistants and customers, have come to accept it as part of their way of life.

In January 1968, the Retail Grocers Wages Board met to hear an employees' application for increased penalty rates (e.g. treble time for Saturday and Sunday work), the grounds being that legislation governing trading hours was no longer in force and that it was the responsibility of the Wages Board to protect employees who might be required to work extraordinary hours.

The Chairman, giving a ruling in February, said: 'I am not satisfied that the current omission from the statutes of long standing legislation designed for the purpose of governing the trading hours of shops should be remedied by the insertion in Industrial Codes of provisions which would have the effect of prohibiting labour to be employed during prescribed hours. I am satisfied that if the claims were adopted, it would have such an effect.'

Whilst the employees failed to obtain the quantum of penalty rates specified in their claim, some upward variations were embodied in the new determination, the most important being a double time provision for all Saturday work in the Hobart zone (as compared with a $1\frac{1}{2}$ time formula for Saturday morning work in Launceston). Other Wages Boards concerned with retailing later made similar determinations.

Petrol Filling Stations

Ordinary permitted hours are 6.30 am to 7.30 pm on week days (with an extra two hours on Friday evening) and 12.30 pm closing on Saturdays. However, a system operates to give the public an opportunity to buy petrol outside these hours and on Sundays at rostered filling stations.

PRICES

Retail Prices and Price Indexes

General

The description of price indexes that follows is, in the main, an abridgement of the text appearing in the *Labour Report* of the Commonwealth Bureau of Census and Statistics; this report is a basic document in any serious study of official price indexes. A full statement appears in the 1967 *Year Book*.

Collection of Retail Price Information

Retail prices of food and groceries and average rentals of houses for years extending back to the year 1901 were collected by the Commonwealth Statistician. As far back as 1856, the average retail prices of provisions at Hobart were published in the *Statistics of Tasmania*.

Retail prices of a more extensive range of commodities (including clothing) and certain services in common demand have been ascertained at frequent and regular intervals by the Commonwealth Statistician since 1923. Comparable information is available for the month of November in each year from 1914 to 1922 for each of the six capital cities.

Retail Price Index Numbers from 1901

The index numbers that follow are presented as a continuous series, but they give only a broad indication of long-term trends in retail price levels. They are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are: 1901-1914, the 'A' Series; from 1914 to 1946-47, the 'C' Series; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series excluding rent; and from 1948-49, the Consumer Price Index. It should be noted that this long-term series is for the six capital cities combined, *not for Hobart alone*.

Retail Price Index Numbers from 1901
Six State Capital Cities Combined
(Base—Year 1911 = 100)

| Year | Index Number | Year | Index Number | Year | Index Number | Year | Index Number |
|-------------|--------------|-------------|--------------|---------|--------------|---------|--------------|
| 1901 .. | 88 | 1920 (a) .. | 193 | 1936 .. | 141 | 1952 .. | 367 |
| 1905 .. | 90 | 1921 (a) .. | 168 | 1937 .. | 145 | 1953 .. | 383 |
| 1906 .. | 90 | 1922 (a) .. | 162 | 1938 .. | 149 | 1954 .. | 386 |
| 1907 .. | 90 | 1923 .. | 166 | 1939 .. | 153 | 1955 .. | 394 |
| 1908 .. | 95 | 1924 .. | 164 | 1940 .. | 159 | 1956 .. | 419 |
| 1909 .. | 95 | 1925 .. | 165 | 1941 .. | 167 | 1957 .. | 429 |
| 1910 .. | 97 | 1926 .. | 168 | 1942 .. | 181 | 1958 .. | 435 |
| 1911 .. | 100 | 1927 .. | 166 | 1943 .. | 188 | 1959 .. | 443 |
| 1912 .. | 110 | 1928 .. | 167 | 1944 .. | 187 | 1960 .. | 459 |
| 1913 .. | 110 | 1929 .. | 171 | 1945 .. | 187 | 1961 .. | 471 |
| 1914 (a) .. | 114 | 1930 .. | 162 | 1946 .. | 190 | 1962 .. | 469 |
| 1915 (a) .. | 130 | 1931 .. | 145 | 1947 .. | 198 | 1963 .. | 472 |
| 1916 (a) .. | 132 | 1932 .. | 138 | 1948 .. | 218 | 1964 .. | 483 |
| 1917 (a) .. | 141 | 1933 .. | 133 | 1949 .. | 240 | 1965 .. | 502 |
| 1918 (a) .. | 150 | 1934 .. | 136 | 1950 .. | 262 | 1966 .. | 517 |
| 1919 (a) .. | 170 | 1935 .. | 138 | 1951 .. | 313 | 1967 .. | 534 |

(a) November; remaining figures are average for year.

'C' Series Retail Price Index Numbers for Hobart from 1914

As previously indicated, the Consumer Price Index is the *current index* produced by the Bureau, the 'C' Series Index having been discontinued. The following table shows the 'C' Series Retail Price Index Numbers for Hobart from 1914 to 1953; it should be noted that the Consumer Price Index is regarded as being more representative of price variations from 1948-49 onwards; full details of this later index appear in subsequent tables.

'C' Series Retail Price Index Numbers, All Groups, Hobart
(Base—Weighted Average of Six Capital Cities, 1923-1927 = 1,000)

| Year | Index | Year | Index | Year | Index |
|-------------|-------|---------|-------|-------------|-------|
| 1914 (a) .. | 687 | 1928 .. | 980 | 1942 .. | 1,078 |
| 1915 (a) .. | 776 | 1929 .. | 1,000 | 1943 .. | 1,117 |
| 1916 (a) .. | 783 | 1930 .. | 956 | 1944 .. | 1,105 |
| 1917 (a) .. | 879 | 1931 .. | 875 | 1945 .. | 1,107 |
| 1918 (a) .. | 923 | 1932 .. | 844 | 1946 .. | 1,138 |
| 1919 (a) .. | 1,042 | 1933 .. | 825 | 1947 .. | 1,178 |
| 1920 (a) .. | 1,213 | 1934 .. | 837 | 1948 (b) .. | 1,292 |
| 1921 (a) .. | 1,070 | 1935 .. | 849 | 1949 (b) .. | 1,419 |
| 1922 (a) .. | 997 | 1936 .. | 860 | 1950 (b) .. | 1,526 |
| 1923 .. | 1,042 | 1937 .. | 875 | 1951 (b) .. | 1,861 |
| 1924 .. | 1,051 | 1938 .. | 887 | 1952 (b) .. | 2,180 |
| 1925 .. | 1,028 | 1939 .. | 908 | 1953 (b) .. | 2,399 |
| 1926 .. | 1,035 | 1940 .. | 945 | | |
| 1927 .. | 998 | 1941 .. | 1,001 | | |

(a) At November; remaining figures are average for year.

(b) See tables that follow for Consumer Price Index from 1948-49; 'C' Series Index number for year 1952-53 (Hobart) was 2,287. Consumer Price Index has 1952-53 as base year.

Consumer Price Index

Introduction: The Consumer Price Index was first compiled in 1960, retrospective to the September quarter 1948. It replaced both the 'C' Series Retail Price Index and the Interim Retail Price Index in official statistical publications of the Bureau. The title 'Consumer Price Index' is used for purposes of convenience and does not imply that the new index differs in definition or purpose from previous retail price indexes. A longer but more completely descriptive title would be 'Consumer Series Retail Price Index Numbers'. For practical purposes, the terms 'retail prices' and 'consumer prices' are synonymous. The Consumer Price Index is designed to measure quarterly variations in retail prices of goods and services representing a high proportion of the expenditure of wage earner households in the aggregate.

Investigations revealed that the incidence and frequency of changes in the pattern of household expenditure since 1950 were such as to render it necessary to construct not one, but a *series of new indexes* introducing additional items and changes in weighting patterns at short intervals between 1949 and 1960. For this period, to obtain a continuously representative measure of retail price change, these now necessarily replace the types of indexes with a constant list of items and a constant set of weights which were kept unchanged for extensive periods. The Consumer Price Index therefore consists of a sequence of short-term retail price indexes chain linked at June quarter 1952, June quarter 1956, March quarter 1960, and December quarter 1963 into one series with reference base year 1952-53 = 100.0.

Origin: The list of component items and the weighting pattern of the 'C' Series Retail Price Index, first adopted in 1921, were slightly revised by the Statisticians' Conference in 1936, but otherwise continued almost unchanged until the index was discontinued in 1960.

The period 1939 to 1948 was marked by war-time controls, price control, and rationing; with the cessation of these controls, there was a rapid rise in prices and a new sequence of changes in consumption and in the pattern of wage-earner expenditure. Thus, in the immediate post-war period, it was virtually impossible to establish a system of weighting that would adequately reflect the changing pattern of household expenditure, or be more continuously representative of current conditions, than that employed in the existing 'C' Series Index. Accordingly, the 'C' Series Index continued to be compiled on its pre-war basis without significant change in procedures.

The Interim Index was a transitional index designed to measure retail price variations on the 'C' Series model in terms of post-war consumption weights, as emerging in the late 1950s. It embraced a wider range of commodities and services than did the 'C' Series Index, but it did not take into account successive major changes in the pattern of expenditure and modes of living that occurred between 1950 and 1960. These changes could not, in fact, be detected and measured promptly, and incorporated into an index concurrently with their happening. In this period, home owning largely replaced house renting, the use of the motor car greatly increased and partly replaced use of public transport, and various items of electrical household equipment and television came into widespread use. The impact of these (and other) changes in usage upon the pattern of household expenditure was heightened by disparate movements in prices. Together they rendered nugatory the attempt to meet the situation by devising a single Interim Retail Price Index. As studies progressed and new data became available, it was clear that no single list of items and no single set of fixed weights would be adequately representative as a basis for measuring retail price changes at all times throughout the post-war

period. In consequence, the situation was met by compiling the Consumer Price Index, constructed as a chain of linked indexes with significant changes in composition and weighting effected at short intervals (1952, 1956, 1960, 1963).

Purpose, Scope and Composition: The Consumer Price Index is a quarterly measure of variations in retail prices of goods and services representing a high proportion of the expenditure of wage-earner households. The weighting pattern relates to estimated aggregates of wage-earner household expenditures and not to estimated expenditures of an 'average' or individual household of specified size, type, or of mode of living. In this way it is possible to give appropriate representation to owner-occupied houses, as well as rented houses, and to include motor cars, television sets and other major expenditures which relate to some households and not to others.

Consumer (retail) price indexes are sometimes loosely called 'cost of living indexes' and are thought to measure changes in the 'cost of living'. Neither the Consumer Price Index, nor any other retail price index, measures changes in the cost of living that result directly from changes in the mode or level of living. Changes of that kind are matters for consideration apart from price indexes. However, the change in prices of goods and services is a very important part of the change in the cost of living and this part is measured by consumer (retail) price indexes.

A comprehensive view of the present composition and weighting of the Consumer Price Index is given in the following table. The weights shown are those comprised in the index for the six State capital cities combined. Broadly, they are in proportion to estimated consumption at or about 1961-62, valued at the relevant prices of December quarter 1963. They indicate the relative influence given to the various components in measuring the degree of price change in the index from December quarter 1963 (i.e. from the beginning of the current linked series).

Consumer Price Index
Composition and Weighting Pattern at December Quarter 1963 for the Six
State Capital Cities Combined

| Group, Section, etc. | Percentage Weight | |
|--|-------------------|-------|
| | Section, etc. | Group |
| Food— | | |
| Cereal Products—Bread, flour, biscuits, rice and breakfast foods | 4.0 | 32.1 |
| Dairy Produce—Milk, cheese, butter and eggs | 7.1 | |
| Potatoes, Onions, Preserved Fruit and Vegetables—Potatoes and onions, canned and dried fruits, and canned and frozen vegetables | 1.9 | |
| Soft Drink, Ice Cream and Confectionery | 4.0 | |
| Other (except Meat)—Sugar, jam, margarine, tea, coffee, baby foods, and sundry canned and other foods | 4.1 | |
| Meat—Butchers' (Beef, mutton, lamb and pork) | 9.1 | |
| Processed (Bacon, smallgoods and canned meat) | 1.9 | |
| Clothing and Drapery— | | 16.9 |
| Men's Clothing | 4.1 | |
| Women's Clothing | 6.5 | |
| Boys' Clothing | 0.6 | |
| Girls' Clothing | 1.0 | |
| Piccegoods, etc.—Wool, cotton and rayon cloth, nursery squares and knitting wool | 1.0 | |
| Footwear—Men's, women's and children's | 2.7 | |
| Household Drapery—Bedclothes, towels, tablecloths, etc. | 1.0 | |

Consumer Price Index**Composition and Weighting Pattern at December Quarter 1963 for the Six State Capital Cities Combined—*continued***

| Group, Section, etc. | | | | | | Percentage Weight |
|--|---------------|--|--|-------|-------|-------------------|
| | Section, etc. | | | Group | | |
| Housing— | | | | | | 12.6 |
| Rent—Privately owned houses | | | | | 2.8 | |
| Government owned houses | | | | | 0.8 | |
| Home Ownership—House Price | | | | | 5.2 | |
| Rates | | | | | 2.6 | |
| Repairs and Maintenance | | | | | 1.2 | |
| Household Supplies and Equipment— | | | | | | 14.5 |
| Fuel and Light—Electricity | | | | | 2.4 | |
| Gas | | | | | 1.3 | |
| Other (Firewood and Kerosene) | | | | | 0.9 | |
| Household Appliances—Refrigerator, washing machine, stove, radio set, television set, vacuum cleaner, electric iron, etc. | | | | | 3.6 | |
| Other Household Articles— | | | | | | |
| Furniture and Floor Coverings | | | | | 2.2 | |
| Kitchen and Other Utensils, Gardening and Small Tools | | | | | 0.9 | |
| Household Sundries (Household soaps, etc.) | | | | | 1.0 | |
| Personal Requisites (Toilet soap, cosmetics, etc.) | | | | | 1.1 | |
| Proprietary Medicines | | | | | 1.0 | |
| School Requisities | | | | | 0.1 | |
| Miscellaneous— | | | | | | 23.9 |
| Transport—Fares—Train | | | | | 1.2 | |
| Tram and bus | | | | | 1.9 | |
| Private Motoring—Car purchase | | | | | 3.0 | |
| Car operation | | | | | 4.4 | |
| Tobacco and Cigarettes | | | | | 3.9 | |
| Beer | | | | | 3.8 | |
| Services—Hairdressing (Haircut, wave, etc.) | | | | | 0.7 | |
| Drycleaning | | | | | 0.5 | |
| Shoe repairs | | | | | 0.3 | |
| Postal and telephone services | | | | | 0.9 | |
| Other—Radio and television operation | | | | | 1.3 | |
| Cinema admission | | | | | 0.7 | |
| Newspapers and weekly magazines | | | | | 1.3 | |
| Total | | | | | 100.0 | 100.0 |

Six Capital City Index: The Six Capital City Consumer Price Index is derived as the weighted average of the indexes for the individual cities, the basis of weighting being their populations as recorded at the latest Census (30 June 1954, 1961, 1966 and so on as data become available).

Comparison of the Five Linked Series: The Consumer Price Index is a chain of 'fixed weight aggregative' indexes, with significant changes in composition and weighting effected at the linking dates; the principal changes were:

- (a) June quarter 1952—introduction of private motoring; changed proportions for modes of house occupancy; change in weights of fuel and fares.
- (b) June quarter 1956—changed proportions in modes of house occupancy; changed weights for fuel, fares and private motoring.
- (c) March quarter 1960—introduction of television.
- (d) December quarter 1963—changed weights for fuel, light, fares and motoring; revised housing weights.

The consumption pattern of the index for the various periods was based broadly as follows: June quarter 1949 to June quarter 1952, on 1948-49 weights; June quarter 1952 to June quarter 1956, on 1952-53 weights; June quarter 1956 to December quarter 1963, on 1956-57 weights; period from December quarter 1963, on 1961-62 weights.

The next table has been compiled to show the percentage contribution to the total index of each of the major groups, first at the beginning of each series, and then at the quarter in which the linking transition was made. The data are for the six capital cities weighted average, and are not completely identical with those employed in calculating the Hobart index; nevertheless the table illustrates the linking mechanism in broad outline:

Consumer Price Index—Analysis of Weighting in Five Linked Series

| Linked Series | Percentage Contribution to Total Index (Weighted Average, Six Capital Cities) | | | | | |
|--|---|----------------------------|---------------|--|---------------------|----------------|
| | Food Group | Clothing and Drapery Group | Housing Group | Household Supplies and Equipment Group | Miscellaneous Group | Total |
| First— June Qtr 1949 .. | 31.3 | 22.8 | 11.4 | 13.1 | 21.4 | 100.0 |
| June Qtr 1952 (a) | 35.7 | 23.0 | 9.2 | 12.2 | 19.9 | 100.0 |
| Second— June Qtr 1952 (b) June Qtr 1956 (a) | 33.6 34.3 | 21.6 20.0 | 9.4 10.5 | 11.7 10.9 | 23.7 24.3 | 100.0 100.0 |
| Third— June Qtr 1956 (b) March Qtr 1960 (a) | 33.7 33.0 | 19.7 19.5 | 10.5 11.0 | 11.6 11.5 | 24.5 25.0 | 100.0 100.0 |
| Fourth— March Qtr 1960 (b) Dec. Qtr 1963 (a) | 32.1 31.6 | 19.0 18.8 | 10.7 12.0 | 13.2 12.6 | 25.0 25.0 | 100.0 100.0 |
| Fifth— Dec. Qtr 1963 (b) | 32.1 | 16.9 | 12.6 | 14.5 | 23.9 | 100.0 |

(a) Change in proportions due to disparate price movements during short period shown.

(b) Change in proportions due to deliberate changes in composition or weighting.

The sets of weights used for the successive periods covered by the index have been derived from analyses of statistics of production and consumption, the general Censuses of 1947, 1954 and 1961, the Censuses of Retail Establishments of 1948-49, 1952-53, 1956-57 and 1961-62 and the continuing Survey of Retail Establishments, from information supplied by manufacturing, commercial and other relevant sources, and from special surveys.

Consumer Price Index, Hobart

The Consumer Price Index for Hobart is compiled to the base 1952-53 = 100, the number 100 being the base value for each of the five major groups (Food, Clothing and Drapery, Housing, etc.) and also for the 'All Group' index.

The following table has been compiled to show group index movements for Hobart on a quarterly basis:

Consumer Price Index Numbers Each Quarter—Group Indexes, Hobart
(Base of Each Index—Year 1952-53 = 100.0 (a))

| Quarter | Food | Clothing and Drapery | Housing | Household Supplies and Equipment | Miscellane- ous | All Groups |
|-------------------|-------|----------------------------|---------|---|--------------------|---------------|
| 1963-64—Sept. . . | 128.7 | 115.0 | 170.7 | 123.4 | 127.3 | 128.8 |
| Dec. . . | 127.9 | 114.9 | 173.6 | 123.7 | 127.9 | 129.0 |
| March . . . | 129.1 | 114.9 | 175.7 | 123.8 | 128.7 | 129.8 |
| June . . . | 129.5 | 115.7 | 175.9 | 124.1 | 128.8 | 130.1 |
| 1964-65—Sept. . . | 131.6 | 116.1 | 176.4 | 124.4 | 131.8 | 131.7 |
| Dec. . . | 134.2 | 116.4 | 180.9 | 124.3 | 133.5 | 133.4 |
| March . . . | 135.0 | 116.9 | 182.4 | 124.3 | 133.9 | 134.0 |
| June . . . | 137.2 | 117.3 | 183.5 | 124.9 | 134.7 | 135.2 |
| 1965-66—Sept. . . | 140.9 | 117.2 | 184.5 | 125.6 | 136.2 | 137.0 |
| Dec. . . | 142.6 | 117.5 | 185.9 | 125.2 | 141.6 | 138.8 |
| March . . . | 140.0 | 117.9 | 186.0 | 125.4 | 141.5 | 138.1 |
| June . . . | 142.2 | 118.9 | 187.0 | 126.7 | 141.7 | 139.3 |
| 1966-67—Sept. . . | 140.9 | 118.9 | 187.8 | 127.0 | 142.6 | 139.2 |
| Dec. . . | 141.3 | 120.1 | 191.0 | 127.1 | 143.6 | 140.1 |
| March . . . | 144.0 | 120.4 | 192.4 | 127.4 | 146.9 | 142.0 |
| June . . . | 146.0 | 121.7 | 194.2 | 128.5 | 147.3 | 143.3 |
| 1967-68—Sept. . . | 155.3 | 122.1 | 194.6 | 129.0 | 149.7 | 147.2 |
| Dec. . . | 153.8 | 123.0 | 198.5 | 131.9 | 151.9 | 148.2 |
| March . . . | 151.5 | 123.3 | 199.1 | 131.7 | 152.1 | 147.6 |
| June . . . | 150.4 | 124.0 | 200.4 | 132.3 | 152.8 | 147.7 |

(a) Figures after decimal point have limited significance.

The following table shows the 'All Group' index numbers for Hobart quarter by quarter, and also as averages for financial years:

Consumer Price Index Numbers—All Groups, Hobart
(Base of Index—Year 1952-53 = 100.0 (a))

| Year | Quarter Ending— | | | | Average for Year |
|---------------|-----------------|----------|-------|-------|------------------------|
| | September | December | March | June | |
| 1952-53 . . . | 98.1 | 98.8 | 100.8 | 102.3 | 100.0 |
| 1953-54 . . . | 105.2 | 105.5 | 105.0 | 104.4 | 105.0 |
| 1954-55 . . . | 104.2 | 104.1 | 105.2 | 105.9 | 104.9 |
| 1955-56 . . . | 107.4 | 109.1 | 110.5 | 113.6 | 110.2 |
| 1956-57 . . . | 116.2 | 117.2 | 116.7 | 117.5 | 116.9 |
| 1957-58 . . . | 116.7 | 116.9 | 117.1 | 117.3 | 117.0 |
| 1958-59 . . . | 117.7 | 118.7 | 119.1 | 119.3 | 118.7 |
| 1959-60 . . . | 119.7 | 120.1 | 120.8 | 122.6 | 120.8 |
| 1960-61 . . . | 125.8 | 127.1 | 128.3 | 128.9 | 127.5 |
| 1961-62 . . . | 129.1 | 128.3 | 127.5 | 127.5 | 128.1 |
| 1962-63 . . . | 127.6 | 128.2 | 128.0 | 128.2 | 128.0 |
| 1963-64 . . . | 128.8 | 129.0 | 129.8 | 130.1 | 129.4 |
| 1964-65 . . . | 131.7 | 133.4 | 134.0 | 135.2 | 133.6 |
| 1965-66 . . . | 137.0 | 138.8 | 138.1 | 139.3 | 138.3 |
| 1966-67 . . . | 139.2 | 140.1 | 142.0 | 143.3 | 141.2 |
| 1967-68 . . . | 147.2 | 148.2 | 147.6 | 147.7 | 147.7 |

(a) Figures appearing after the decimal point possess little significance for general statistical purposes. They are inserted to avoid the distortions that would occur in rounding.

The next table shows, as averages for financial years, the group indexes for Hobart.

**Consumer Price Index Numbers Each Year—Group Indexes, Hobart
(Base of Each Index—Year 1952-53 = 100.0 (a))**

| Year | Food | Clothing and Drapery | Housing | Household Supplies and Equipment | Miscellaneous | All Groups |
|---------|-------|----------------------|---------|----------------------------------|---------------|------------|
| 1952-53 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1953-54 | 107.9 | 101.8 | 107.1 | 103.0 | 103.9 | 105.0 |
| 1954-55 | 107.1 | 102.0 | 110.7 | 103.7 | 102.0 | 104.9 |
| 1955-56 | 113.7 | 103.3 | 121.9 | 108.6 | 106.8 | 110.2 |
| 1956-57 | 118.6 | 106.1 | 133.3 | 115.2 | 118.5 | 116.9 |
| 1957-58 | 115.1 | 108.7 | 137.3 | 116.0 | 119.5 | 117.0 |
| 1958-59 | 116.8 | 109.8 | 141.3 | 116.8 | 121.2 | 118.7 |
| 1959-60 | 118.5 | 110.7 | 148.5 | 118.5 | 123.3 | 120.8 |
| 1960-61 | 132.1 | 112.4 | 156.6 | 121.1 | 126.2 | 127.5 |
| 1961-62 | 129.0 | 114.0 | 163.8 | 124.3 | 127.0 | 128.1 |
| 1962-63 | 127.2 | 114.5 | 168.7 | 123.8 | 127.0 | 128.0 |
| 1963-64 | 128.8 | 115.1 | 174.0 | 123.8 | 128.2 | 129.4 |
| 1964-65 | 134.5 | 116.7 | 180.8 | 124.5 | 133.5 | 133.6 |
| 1965-66 | 141.4 | 117.9 | 185.9 | 125.7 | 140.3 | 138.3 |
| 1966-67 | 143.1 | 120.3 | 191.4 | 127.5 | 145.1 | 141.2 |
| 1967-68 | 152.8 | 123.1 | 198.2 | 131.2 | 151.6 | 147.7 |

(a) Figures appearing after the decimal point possess little significance for general statistical purposes. They are inserted to avoid the distortions that would occur in rounding off figures to the nearest whole number.

Average Prices of Foodstuffs, Hobart

The next table has been compiled to show the average retail price of certain foodstuffs in Hobart since 1950. The list, while representative of foodstuffs commonly consumed, is not exhaustive; for a description of foodstuffs in the Consumer Price Index regimen, see the earlier table 'Consumer Price Index, Composition and Weighting Pattern'.

**Average Retail Prices (a): Hobart
Certain Items of Foodstuffs
(Cents)**

| Article | Unit (a) | 1950 | 1960 | 1965 | 1966 | 1967 |
|--------------------------------|----------|------|------|------|------|------|
| Bread (delivered) | 2 lb | 6.6 | 14.2 | 15.8 | 17.1 | 18.1 |
| Flour (plain) | " | 4.7 | 11.8 | 13.7 | 14.5 | 15.1 |
| Tea | ½ lb | 15.2 | 34.2 | 32.9 | 33.1 | 33.2 |
| Sugar (b) | 1 lb | 4.2 | 9.3 | 9.5 | 9.5 | 10.4 |
| Jam (plum) | 1½ lb | 12.0 | 28.7 | 27.3 | 27.3 | 27.7 |
| Potatoes | 7 lb | 17.7 | 34.5 | 69.2 | 35.8 | 49.2 |
| Butter (factory) | 1 lb | 22.0 | 46.9 | 49.6 | 51.4 | 52.0 |
| Eggs (c) | doz | 33.5 | 56.7 | 61.0 | 65.0 | 67.8 |
| Bacon (rashers) (d) | 1 lb | 32.6 | 68.3 | 89.2 | 95.6 | 99.7 |
| Milk, bottled, delivered | qt | 9.5 | 17.3 | 17.8 | 18.4 | 19.8 |
| Beef— | | | | | | |
| Sirloin | 1 lb | 17.9 | 44.3 | 53.3 | 57.4 | 61.7 |
| Rump Steak | " | 22.8 | 65.9 | 79.4 | 83.1 | 87.9 |
| Corned Silverside | " | 16.9 | 44.2 | 51.6 | 56.4 | 60.2 |
| Mutton— | | | | | | |
| Leg | " | 11.8 | 24.9 | 29.8 | 31.4 | 32.4 |
| Loin Chops | " | 11.5 | 19.0 | 25.2 | 26.1 | 28.2 |
| Pork—Leg | " | 26.9 | 53.9 | 61.8 | 63.6 | 65.9 |

(a) The table units are not necessarily those for which the original price data were obtained (see notes (b) and (d)). In such cases, prices have been calculated for the table unit.

(b) Quotes obtained for one pound prior to 1966; for four pound packets from 1966.

(c) 'Large' prior to 1964; two ounce eggs from 1964.

(d) Quotes obtained for one pound prior to 1966; for half a pound from 1966.

Wholesale Price Index*History of Wholesale Price Indexes*

The first wholesale price index compiled by the Bureau was the Melbourne Wholesale Price Index, originally computed in 1912, with weights for basic materials and food appropriate to usage in 1910. After reviewing the list of items and weighting of the Melbourne Wholesale Price Index, the 1930 Statisticians' Conference resolved that a new index of wholesale prices of basic materials and foodstuffs should be compiled. This index—the Wholesale Price (Basic Materials and Foodstuffs) Index—extends back to the year 1928 and is compiled monthly.

The Melbourne Wholesale Price Index—now obsolete—was continued up to the year 1961 and is of historic interest since the series was taken back in time to 1861, but still using the weights appropriate to 1910. Details of this index, from 1861 to 1953, were published in the Bureau's *Labour Report*, No. 49 (1961).

General

The term 'Wholesale Price Index' is currently the short title for 'Wholesale Price (Basic Materials and Foodstuffs) Index'. While retail price indexes have been compiled for individual capitals and towns, the wholesale price index is derived almost exclusively from Melbourne sources; it follows that it is impossible to quote specific wholesale index numbers for Hobart. Nevertheless, the series is of value as indicative of the trend of wholesale prices in Australian markets generally.

Index Numbers

The following table gives the index numbers and shows details for each commodity group. The data have been compiled as averages for financial years but the series is also maintained on a monthly basis.

**Wholesale Price (Basic Materials and Foodstuffs) Index Numbers
(Base of Each Index—Average of Three Years Ended June 1939 = 100)**

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 | 1967-68 |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Basic Materials— | | | | | | | |
| Metals and Coal .. | 392 | 388 | 383 | 391 | 390 | 396 | 397 |
| Oils, Fats and Waxes .. | 212 | 209 | 207 | 207 | 218 | 220 | 225 |
| Textiles .. | 400 | 432 | 484 | 427 | 432 | 419 | 392 |
| Chemicals .. | 333 | 317 | 286 | 286 | 325 | 381 | 397 |
| Rubber and Hides .. | 302 | 262 | 221 | 242 | 306 | 281 | 222 |
| Building Materials .. | 439 | 439 | 473 | 503 | 507 | 511 | 514 |
| Total (a) .. | 340 | 336 | 339 | 345 | 355 | 362 | 361 |
| Foodstuffs and Tobacco | 332 | 342 | 352 | 364 | 385 | 401 | 411 |
| Total All Groups (a) | 336 | 340 | 346 | 355 | 371 | 383 | 388 |
| All Groups By Origin— | | | | | | | |
| Principally Imported(b) | 270 | 272 | 275 | 277 | 280 | 283 | 287 |
| Principally Home Produced .. | 363 | 368 | 376 | 388 | 409 | 425 | 431 |

(a) Weighted average.

(b) Represents only such imported commodities as are included in the Wholesale Price Index and does not measure changes in the prices of all imports.

Definition: The commodities in the current index are priced in their primary or basic form wherever possible. The prices used have, in the main, been obtained directly from manufacturers and merchants. With a few important exceptions, they are from Melbourne sources. The weighting system adopted is

based on estimates of the average annual consumption of the commodities in Australia during the years 1928-29 to 1934-35 inclusive. Work is proceeding on the preparation of new series of wholesale price index numbers but meanwhile the present series continues to be compiled on the existing basis which has been increasingly affected by changes in usage, changes of category as between 'imported' and 'home-produced' for some commodities, and changes in industrial structure.

WAGES

Basic Wage in Tasmania

General

The concept of a 'basic' or 'living' wage was common to rates of wages determined by industrial authorities in Australia before an award of the Commonwealth Conciliation and Arbitration Commission in June 1967 introduced a new industrial concept, *the total wage*. Initially the pre-1967 concept was interpreted as the 'minimum' or 'basic wage' necessary to maintain an average employee and his family in a reasonable state of comfort. However, it was later generally accepted 'that the wage should be fixed at the highest amount which the economy can sustain and that the dominant factor is the capacity of the community to carry the resultant wage levels' (*Commonwealth Arbitration Report*, Vol. 77).

In Tasmania, some workers are members of industrial organisations (trade unions) which have interstate affiliations and which fall within the jurisdiction of the Commonwealth Conciliation and Arbitration Commission; other workers are members of trade unions which are without interstate affiliations and which fall within the jurisdiction of State Wages Boards. Thus, at any point in time, it was possible to have two basic wages operative in Tasmania, one fixed by a Commonwealth authority and the other fixed by a State authority. This, however, is a simplification—in theory, at least, each State Wages Board was at liberty to determine an individual basic wage for the trade covered by its jurisdiction. It follows, again in theory, that there could have been seventy different basic wages in operation since there were approximately seventy active Wages Boards. In actual fact, machinery exists to avoid such a situation arising and the operation of this machinery is described in a subsequent section headed 'State Wages Boards'. The pre-1967 situation may be summarised as follows: the basic wage fixed by the Commonwealth Conciliation and Arbitration Commission in the Federal Metal Trades Award had eventual application not only to most Tasmanian workers under Federal awards but also to most workers under the jurisdiction of State Wages Boards.

Commonwealth Basic Wage

Under the Commonwealth *Conciliation and Arbitration Act 1904-1964*, the Commonwealth Conciliation and Arbitration Commission (previously the Commonwealth Court of Conciliation and Arbitration) could, for the purpose of preventing or settling an industrial dispute extending beyond the limits of any State, make an order or award 'altering the basic wage (that is to say, that wage or part of the wage, which is just and reasonable for an adult male [female] without regard to any circumstances pertaining to the work upon which, or the industry in which he [she] is employed) or the principles upon which it is computed'. From this quotation, it may be deduced that margins and other 'secondary' components over and above the basic wage were fixed by consideration of 'circumstances pertaining to the work upon which, or the industry in which the worker is employed'.

Summary of Commonwealth Judgments

Pre-1953 A detailed summary of decisions of the Commonwealth Court of Conciliation and Arbitration in the period 1907-1953 appears in the 1968 *Year Book*. The first definition and determination of the basic wage was made by Mr Justice Higgins in 1907.

- 1953** In September, the Court ruled automatic quarterly adjustments of the basic wage should cease.
- 1956** In May, the Court rejected the principle of automatic quarterly adjustments but increased the male basic wage by \$1.
- 1957** In April, the Commission again rejected the principle of automatic quarterly adjustment and again increased the male basic wage \$1. It supported the principle of annual reviews.
- 1958** In May, an increase of 50 cents was made but automatic quarterly adjustments were again refused.
- 1959** In June, the Commission, by majority decision, decided on an increase of \$1.50; also, by majority decision, it rejected the principle of automatic quarterly adjustments.
- 1960** In April, the Commission decided to grant no increase.
- 1961** In July, the Commission increased the basic wage by \$1.20, rejecting both employers' claims for a 42 hour week and unions' claims for automatic quarterly adjustment. It also ruled that, in February 1962, 'the only issue in regard to the basic wage should be why the money wages fixed as a result of our decision should not be adjusted in accordance with any change in the Consumer Price Index'.
- 1962** At the February hearing (as prescribed in the 1961 judgment), the Commission considered the movement in the Consumer Price Index. The index being virtually stationary in the year under review, the Commission granted no increase.
- 1963** In February, the Commission again rejected claims for an increase.
- 1964** In June, the Commission was divided on the amount of the appropriate increase and the award of \$2 was made on the casting vote of the President. It rejected the application of employers for deletion from the Commission's awards, generally, of the basic wage provisions and for the insertion in those awards of a wage expressed as a total wage. The outcome of similar employers' applications made in 1965, 1966 and 1967 is dealt with in a subsequent section headed *Total Wage Concept*.
- 1965** On 29 June, the Commission refused to increase the basic wage but it varied margins by the $1\frac{1}{2}$ per cent formula, i.e. the total of current *basic wage and margin* was to be increased by $1\frac{1}{2}$ per cent and the resulting increment credited to the margin.
- 1966** The Commission increased the basic wage \$2 with effect from 11 July.
- 1967** End of basic wage in Commonwealth awards. (See subsequent section headed '*Total Wage Concept*' and also *Appendix C.*)

Basic Wage Rates from 1923

The following table shows the basic weekly wage rates prescribed for adult males under periodical decisions of the Commonwealth Court of Conciliation and Arbitration (and later of the Commonwealth Conciliation and Arbitration Commission).

The final year of the table—1967—is noted as 'abolition of the basic wage'. The Commission gave an award in June 1967 and embodied in it the new concept of a total wage. The rates generally are operative from the first

pay-period commencing in the month shown or commencing on or after the date shown, and are those applicable to Hobart.

**Commonwealth Basic Wage Rate From 1923—Hobart
Adult Males (\$)**

| Date Operative | Weekly Rate | Date Operative | Weekly Rate | Date Operative | Weekly Rate |
|----------------|-------------|----------------|-------------|-----------------|-------------|
| 1923—Feb. .. | 8.15 | 1933—Feb. .. | 6.34 | 1947—Feb. .. | 10.40 |
| May .. | 8.30 | May .. | 6.48 | Aug. .. | 10.50 |
| Aug. .. | 8.75 | Aug. .. | 6.38 | Nov. .. | 10.70 |
| Nov. .. | 8.90 | Nov. .. | 6.39 | 1948—Feb. .. | 11.00 |
| 1924—Feb. .. | 8.95 | 1934—Feb. .. | 6.48 | May .. | 11.20 |
| Aug. .. | 8.85 | May .. | (a) 6.70 | Aug. .. | 11.50 |
| Nov. .. | 8.80 | 1935—March .. | 6.90 | Nov. .. | 11.80 |
| 1925—Feb. .. | 8.70 | 1937—July .. | (a) 7.20 | 1949—Feb. .. | 12.10 |
| Nov. .. | 8.55 | Sept. .. | 7.30 | May .. | 12.40 |
| 1926—Feb. .. | 8.60 | Oct. .. | (a) 7.50 | Aug. .. | 12.70 |
| May .. | 8.90 | 1938—March .. | 7.60 | Nov. .. | 12.80 |
| Nov. .. | 8.85 | 1939—June .. | 7.70 | 1950—Feb. .. | 13.10 |
| 1927—Feb. .. | 8.70 | 1940—Feb. .. | 7.80 | Aug. .. | 13.50 |
| May .. | 8.65 | Aug. .. | 8.00 | Nov. .. | 13.90 |
| Aug. .. | 8.55 | Nov. .. | 8.10 | Dec. .. | (a) 16.00 |
| Nov. .. | 8.50 | 1941—Feb. .. | 8.30 | 1951—Feb. .. | 16.50 |
| 1928—Feb. .. | 8.40 | May .. | 8.40 | May .. | 17.30 |
| May .. | 8.25 | Aug. .. | 8.50 | Aug. .. | 18.70 |
| Aug. .. | 8.30 | 1942—Feb. .. | 8.70 | Nov. .. | 19.90 |
| Nov. .. | 8.25 | May .. | 8.80 | 1952—Feb. .. | 20.80 |
| 1929—Feb. .. | 8.30 | Aug. .. | 9.10 | May .. | 21.40 |
| May .. | 8.60 | Nov. .. | 9.20 | Aug. .. | 22.20 |
| Aug. .. | 8.55 | 1943—Feb. .. | 9.40 | Nov. .. | 23.00 |
| Nov. .. | 8.60 | Aug. .. | 9.50 | 1953—Feb. .. | 23.20 |
| 1930—Feb. .. | 8.65 | 1944—Feb. .. | 9.40 | May .. | 23.90 |
| May .. | 8.40 | Aug. .. | 9.30 | Aug. .. | (a) 24.20 |
| Nov. .. | 8.20 | Nov. .. | 9.40 | 1956—June .. | (a) 25.20 |
| 1931—Feb. .. | (a) 7.02 | 1945—May .. | 9.30 | 1957—15 May .. | (a) 26.20 |
| May .. | 6.88 | Nov. .. | 9.40 | 1958—21 May .. | (a) 26.70 |
| Aug. .. | 6.71 | 1946—Feb. .. | 9.50 | 1959—11 June .. | (a) 28.20 |
| Nov. .. | 6.43 | Aug. .. | 9.60 | 1961—7 July .. | (a) 29.40 |
| 1932—Feb. .. | 6.48 | Nov. .. | 9.70 | 1964—19 June .. | (a) 31.40 |
| May .. | 6.52 | Dec. .. | (a) 10.30 | 1966—11 July .. | (a) 33.40 |
| Aug. .. | 6.57 | | | 1967—5 June .. | (b) |
| Nov. .. | 6.43 | | | | |

(a) Rate declared subsequent to an enquiry.

(b) Abolition of Federal basic wage; see later section headed "Total Wage Concept".

The next table has been compiled to show the Commonwealth basic wage rates operating in Australian capital cities before the decision of 5 June 1967.

**Commonwealth Basic Wage—Weekly Rates, Adult Males
(\$)**

| Date Operative (a) | Sydney | Melbourne | Brisbane | Adelaide | Perth | Hobart | Six Capital Cities |
|-----------------------|--------|-----------|----------|----------|-------|--------|--------------------|
| August 1953 .. | 24.30 | 23.50 | 21.80 | 23.10 | 23.60 | 24.20 | 23.60 |
| June 1956 .. | 25.30 | 24.50 | 22.80 | 24.10 | 24.60 | 25.20 | 24.60 |
| 15 May 1957 .. | 26.30 | 25.50 | 23.80 | 25.10 | 25.60 | 26.20 | 25.60 |
| 21 May 1958 .. | 26.80 | 26.00 | 24.30 | 25.60 | 26.10 | 26.70 | 26.10 |
| 11 June 1959 .. | 28.30 | 27.50 | 25.80 | 27.10 | 27.60 | 28.20 | 27.60 |
| 7 July 1961 .. | 29.50 | 28.70 | 27.00 | 28.30 | 28.80 | 29.40 | 28.80 |
| 19 June 1964 .. | 31.50 | 30.70 | 29.00 | 30.30 | 30.80 | 31.40 | 30.80 |
| 11 July 1966 .. | 33.50 | 32.70 | 31.00 | 32.30 | 32.80 | 33.40 | 32.80 |

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

Commonwealth Basic Wage Rates for Females

The following table summarises the Commonwealth basic wage applicable to females from 1939. Prior to 1950, female basic wage rates had been approximately 54 to 56 per cent of male rates but the Court of Conciliation and Arbitration in its judgment in December of that year fixed the relativity at 75 per cent.

Commonwealth Basic Wage Rate, Hobart—Adult Females (\$)

| Date Operative (a) | Weekly Rate | Date Operative (a) | Weekly Rate | Date Operative (a) | Weekly Rate |
|--------------------|-------------|--------------------|-------------|--------------------|-------------|
| Sept. 1939 .. | 4.20 | May 1952 .. | 16.05 | 15 May 1957.. | 19.65 |
| Nov. 1947 .. | 5.80 | Aug. 1952 .. | 16.65 | 21 May 1958.. | 20.00 |
| Nov. 1948 .. | 6.35 | Nov. 1952 .. | 17.25 | 11 June 1959.. | 21.15 |
| Nov. 1949 .. | 6.90 | Feb. 1953 .. | 17.40 | 7 July 1961.. | 22.05 |
| Nov. 1950 .. | 7.50 | May 1953 .. | 17.90 | 19 June 1964.. | 23.55 |
| Dec. 1950 (b) .. | 12.00 | Aug. 1953 .. | 18.15 | 11 July 1966.. | 25.05 |
| Nov. 1951 .. | 14.90 | June 1956 .. | 18.90 | 5 June 1967.. | (c) |

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

(b) Female rate increased to 75 per cent of male rate.

(c) Abolition of Federal basic wage; see later section headed 'Equal Pay Legislation'.

State Basic Wage

It is something of a contradiction to speak of a Tasmanian State basic wage, since no provision exists in industrial legislation for the declaration of a State rate. Prior to February 1956, most Wages Boards adopted Commonwealth basic wage rates. However, from February 1956 to May 1958 there was a divergence between Commonwealth and State rates as shown in the following table:

**Basic Wage, Hobart—Adult Males and Females (Weekly Rates)
Divergence Between Commonwealth and State Awards (1956-1958) (\$)**

| Month of Operation (a) | Commonwealth Awards | | State Wages Boards' Awards | |
|------------------------|---------------------|---------|----------------------------|---------|
| | Males | Females | Males | Females |
| Aug. 1953 | 24.20 | 18.15 | 24.20 | 18.15 |
| Feb. 1956 | 24.20 | 18.15 | 25.90 | 19.42 |
| May 1956 | 24.20 | 18.15 | 26.80 | 20.10 |
| June 1956 | 25.20 | 18.90 | 26.80 | 20.10 |
| Aug. 1956 | 25.20 | 18.90 | 27.20 | 20.40 |
| May 1957 | 26.20 | 19.65 | 27.20 | 20.40 |
| May 1958 | 26.70 | 20.00 | 27.20 | 20.40 |
| June 1959 | 28.20 | 21.15 | 28.20 | 21.15 |

(a) Operative as from the beginning of the first pay period in the month shown.

In February, May and August 1956, most State Wages Boards reverted to the system of automatic quarterly adjustments abandoned by the Commonwealth Court in September 1953. In June 1959, most Wages Boards brought their basic wage into line with that awarded by the Commonwealth Commission and have followed its judgments since that date.

The next table shows State basic wages in those States which have retained the basic wage concept:

**State Basic Wages—Weekly Rates
(\$)**

| State or Locality | Date of Operation (a) | June 1968 | |
|-------------------------------|-----------------------|-----------|-----------|
| | | Males | Females |
| New South Wales .. | 11 Jan. 1968 | 34.50 | 26.10 |
| South Australia (Adelaide) .. | 3 July 1967 | 33.30 | 25.20 |
| Tasmania (Hobart) .. | 1 July 1967 | (b) 34.40 | (b) 26.05 |

(a) Rates are operative from the beginning of the first pay-period commencing after the date shown, or during the month shown.

(b) Raised \$1 in July 1967 in Electrical Trades test case (State Wages Board decision); see later section headed 'Total Wage Concept' and also Appendix C.

The following describes how each State dealt with the abolition of the basic wage in Commonwealth awards.

N.S.W.: Adult male and female award rates were increased by \$1 per week, called 'July economic loading' and operative in the first pay period in July 1967. Legislation later fixed the male and female basic wage at \$34.50 and \$26.10 respectively from 1 January 1968; this absorbed the economic loading into the basic wage.

Victoria: The State basic wage in Melbourne was last varied to operate from July 1966 (\$32.70 male and \$24.50 female). Male and female rates in most Wages Boards' determinations were increased by \$1 from 1 July 1967, but basic wages and margins were deleted from determinations and wage rates were expressed as total wages.

Queensland: The State basic wage in Brisbane was last varied to operate from April 1967 (\$33.20 male and \$24.90 female). Male and female award rates of pay were increased by \$1 per week from 3 July 1967.

S.A.: The 'living wages' for adult males and adult females were increased by \$1 per week from 3 July 1967.

W.A.: The State basic wage in Perth was last varied to operate from July 1966 (\$33.50 male and \$25.13 female). The Industrial Commission, with effect from July 1967, increased the award rates of adult male workers under certain awards by \$1; other adult workers, both male and female, received an increase of 60 cents.

Tasmania: The Chairman of State Wages Boards announced on 4 July 1967 that a male and female adult basic wage increase of \$1 would be incorporated in Wages Boards' determinations.

Wage Margins in Tasmania

General

Wage margins have been defined as 'minimum amounts awarded above the basic wage to particular classifications of employees for the features attaching to their work which justify payments above the basic wage, whether these features are the skill or experience required for the performance of that work, its particularly laborious nature, or the disabilities attached to its performance' (*Commonwealth Arbitration Report*, Vol. 80).

Marginal rates of wages were determined both by Commonwealth and State industrial tribunals (in Tasmania, by State Wages Boards) before an award of the Commonwealth Conciliation and Arbitration Commission in

June 1967 introduced a new industrial concept, *the total wage* in Commonwealth awards. In the Commonwealth jurisdiction, prior to 1954, the Commonwealth Court of Conciliation and Arbitration had not made any general determination in respect of wage margins, but general principles of marginal rate fixation had been enunciated by the Court in the Engineers' Case of 1924, the Merchant Service Guild Case of 1942 and the Printing Trades Case of 1947. Major determinations affecting margins were made in the Commonwealth jurisdiction in 1954, 1959, 1963 and 1965 (the 1965 hearing resulted in a determination affecting margins generally even though conceived originally by the claimant trade unions as concerned purely with basic wage issues). The decisions of the Commonwealth Court (and later of the Commonwealth Conciliation and Arbitration Commission) have generally been followed by State industrial tribunals in the determination of margins in State awards. The Tasmanian State Wages Boards have undoubtedly been influenced in their margins determinations by those made in the Commonwealth jurisdiction, although an independent policy has sometimes been pursued (e.g. special 15 per cent marginal increases for certain tradesmen in the State sphere in 1963, as opposed to 10 per cent increases granted in the Commonwealth jurisdiction).

Summary of Major Judgments (Commonwealth)

1954 In November, the Commonwealth Court made an order re-assessing the margin structure in the Metal Trades Award by, in general, raising the current amount of the margin to $2\frac{1}{2}$ times the amount of the margin that had been current in 1937. However, in cases in which the result of the calculation produced an amount less than the existing margin, the existing margin was to remain unaltered. In effect, this decision increased the margin of a fitter from \$5.20 weekly to \$7.50, increased similarly margins of other skilled occupations, and made no increase in margins of what may generally be described as the unskilled or only slightly skilled occupations under the Metal Trades Award.

The ' $2\frac{1}{2}$ times Metal Trades formula' was generally adopted in Commonwealth awards and also became a basis for calculating marginal adjustments for trades within the jurisdiction of State Wages Boards in Tasmania.

1959 In November, the Commission made an order re-assessing the marginal structure in the Metal Trades Award, Part I, by increasing the existing margins by 28 per cent, the amount of the increase being taken to the nearest 5 cents. The effect of this decision was to increase the margin of the fitter from \$7.50 to \$9.60 per week.

The Commission emphasised that the decision related only to the Metal Trades Award but acknowledged that on occasions in the past, margins fixed in the Metal Trades Award, and in particular the margin of the fitter, had been used as standards for other awards. The use of the 28 per cent formula as a guide in other disputes would be a matter for the parties as far as conciliation was concerned and, if arbitration was necessary, for the Commission itself.

The 28 per cent formula, despite the fact that it had not been designed for general application, was in fact subsequently embodied in most Commonwealth tradesmen's awards and also had wide application in determinations of State Wages Boards in Tasmania.

1963 In April, the Commission made an order increasing margins for adult males in the Metal Trades Award by ten per cent, operative from the first pay-period commencing on and after 22 April. The Commission emphasised that the decision would relate to the Metal Trades Award only, although it was realised that the margin of the fitter had been

used as a standard for other awards. In the present case, the Commission stated it was not intended that the decision should be applied automatically outside the metal trades. The use of any changes in margins granted by the Commission, as a guide in other disputes, would be a matter for the parties as far as conciliation was concerned and, if arbitration was necessary, for the Commission. In Tasmania, the 10 per cent formula had fairly general application in most Federal awards; however, for workers under the jurisdiction of State Wages Boards, the Commonwealth formula was varied, the more highly skilled receiving a 15 per cent increase in margins.

- 1965 The Commission, on 29 June, delivered judgment, refusing a basic wage increase but ordering a margin increase based on the 1½ per cent formula (i.e. total wage to be increased by 1½ per cent and the increment to be credited to the marginal component).
- 1966 In July, the Commission deferred a decision on margins but ordered a Commissioner to investigate the Metal Trades' marginal structure from the work-value aspect. In December, it delivered judgment on an *interim* margins claim, using incremental formulae based on 1.0, 1.5, 2.0 and 2.5 per cent of total wage.
- 1967 End of margins *as such* in Commonwealth awards. (See later section headed 'Total Wage Concept' and also Appendix C.)

Metal Trades Work Value Award

Decision of December 1967

The margins cases of 1954, 1959 and 1963, although argued originally for Metal Trades employees, had nevertheless been used as a precedent for higher rates for most workers. This was to be expected, since the argument largely concerned the state of the national economy, and the Commission itself now uses the term *economic cases* to describe such hearings.

In 1966, the Commission dealt with a Metal Trades margins case, again argued principally on general economic grounds. In July, its decision was to grant no immediate marginal increases, but to start an investigation of Metal Trades margins from the *work value* aspect. In essence, this involved comparing the rates for each classification within the award, one with another, and also with rates outside the award; its aim was to put a value on the type of work performed by Metal Trades workers in individual classifications. Later in the same year (December), the Commission dealt with a Metal Trades *interim economic case* by stipulating incremental formulae based on 1.0, 1.5, 2.0 and 2.5 per cent of total wage, and this decision was eventually applied to most workers under Federal and State awards and determinations.

The work value investigation was lengthy and the Commission was unable to give its decision before 11 December 1967. It awarded substantial increases to some classifications specified in the Metal Trades award (e.g. fitter's rate advanced by \$7.40); it gave no specific direction on over-award payments but suggested that they might be absorbed to some extent in the new award rates. Unlike Metal Trades awards resulting from *economic cases*, this award did not create a precedent capable of general application, and tradesmen in other fields were warned that they would need to argue *work value cases* for the individual classifications in their particular industries.

Over-award Payments

Before the award of December 1967, many Metal Trades employers were paying rates higher than the minima fixed by the Commission. After the award, their problem was whether to increase existing payments by the exact

increment determined by the Commission, or whether to reduce over-award payments (known as 'absorption'). The industrial disputes that followed were concerned not so much with the new minimum wages but rather with maximum wages (and on these the Commission had given no ruling). Three months after the award, the employers appealed to the Full Bench of the Commission and put forward the following alternatives: (i) cancellation of the new rates; (ii) a ruling as to absorption; (iii) the assessment of the new rates as maximum rates; or, (iv) lower rates without the assumption of absorption.

Decision of February 1968

On 21 February, the Full Bench gave its decision, the chief clause reading: 'We have decided that 70 per cent of the prescribed increases . . . of the award shall be payable in accordance with the decision of December 11 and that 30 per cent shall be deferred.' However, December increases of less than \$1.60 were not to be varied, and no December increases greater than \$1.60 were to be reduced below this amount.

On the absorption issue, the Bench ruled: 'We reject the employers' application to include in the award a specific provision permitting absorption, but we recognise the possibility of the odd case where some absorption is inescapable. Subject to this, the rates which follow are based on an assessment which . . . is divorced from assumptions that absorption should and would take place'.

The Full Bench was unwilling to vary the December increases: 'We all agree that the work value decision of the commission as to its amounts should stand. There can be no question of substitution of different amounts than those prescribed by the majority'. As to the deferred 30 per cent part of the increase, the matter could be reviewed in August: 'We are all of the view that the bench, which will deal with the economic case anticipated to commence on August 6 this year, should also decide when the deferred portion of the increases shall be payable'.

The Full Bench again emphasised the difference between *economic cases* and *work value* cases: 'We all agree that this is not a case in which increases in wage rates in the metal trades award set a pattern for wages in other awards. It will be for those who constitute benches dealing with work value cases in other awards to arrive at their decisions without being bound to follow what has happened in the metal trades award'.

Tasmanian Sequel

Test Case: On 5 February 1968, the Electrical Engineers' Wages Board met to hear claims based on the Metal Trades work value decision given in the Federal jurisdiction on 11 December 1967. This Board's deliberations were adjourned and a wider conference was convened so the matter under review could be treated as a test case for all Metal Trades classifications in the State jurisdiction.

The essence of the claim was: (i) electrical tradesmen with \$13.90 margins should receive a \$7.40 increase (fitters in the Federal jurisdiction had received a \$7.40 increase in the December decision); (ii) the minimum margin in the determination should not be less than \$7.20.

Argument: The employers argued that acceptance of the claim as it stood would perpetuate a differential between Tasmanian and Federal rates; there might have been justification for a differential in the past but this had disappeared because the December Federal rates had been established by a work value enquiry. The Federal rates should be accepted unless an independent work value enquiry were held in the State jurisdiction.

Determination: The Chairman's recommendation, given on 14 March 1968, was to vary the determination as follows: (i) increase by \$5.80 the margin paid battery fitters, electrical fitters, electrical mechanics, linesmen, shift electricians, refrigeration mechanics, radio mechanics; (ii) increase less skilled classifications by smaller amounts, e.g. \$0.25 for an electrical fitter's assistant; (iii) increase apprentices' rates.

Rejecting the claim for the full \$7.40, the Chairman said: 'This proposition does not justly accept the fact that the differential between the Federal and State prescriptions of margins for tradesmen has been clearly stated as an interim adjustment against the long awaited re-assessment of the tradesman's margin in the Federal Metal Trades Award. In my view, the maintenance of the previous differential can no longer be justified'.

The determination in the test case was later used as a basis for variation of rates in determinations of a number of Wages Boards, including Plumbers'; Automotive Industry; Marine Boards; Emu Bay Railway; Mechanical Engineers and Founders; Electrolytic Zinc, etc.

It will be noted that the quantum of increase claimed (\$7.40) was reduced to \$5.20 in the Federal award of February 1968; so, in actual fact, the State test case did not have the effect of reducing the differential between Tasmanian and Federal rates (parity was achieved in August 1968 when the 30 per cent deferred portion was restored in the Federal award).

The differential between the two jurisdictions is shown in the following table:

Tasmanian and Federal Jurisdictions: Key Tradesmen's Margins

| Date of Award or Determination (a) | Federal Award: Margin of Fitter | Tasmanian Determination: Margin of Electrical Fitter |
|---------------------------------------|---------------------------------|--|
| Prior to Award of 11 December 1967 .. | \$ 12.30 | \$ 13.90 |
| Award of 11 December 1967 | 19.70 | .. |
| Award of 21 February 1968 | 17.50 | |
| Determination of 14 March 1968 | .. | 19.70 |
| Increase | 5.20 | 5.80 |

(a) Date of giving decision, not the effective date for payment of new rate.

See Appendix C for conclusion of Work Value case.

General

Total Wage Concept

In the period 1953-1963, Metal Trades cases with nation-wide implications came before the Commonwealth Court (later the Commission). These were of two kinds: (i) for basic wage variation (each year from 1956 to 1963); (ii) related to margins (1954, 1959 and 1963). Basic wage increases were granted in 1956, 1957, 1958, 1959 and 1961, but refused in 1960, 1962 and 1963.

1964 The employers made a claim for the deletion from the Metal Trades award of the basic wage provisions and for the substitution of a total wage concept. On 9 June, the Commission ruled: 'The members of the bench are unanimous in the opinion that the application of the employers for the deletion from the Commission's awards generally of the basic wage provisions and for the insertion in those awards of a wage expressed as a total wage should be rejected'. The Commission was divided on the amount of the basic wage increase and awarded \$2 on the casting vote of the President.

- 1965** The Commission considered two claims: (i) from the employers, for the fixation of a total wage, and (ii) from the unions, for an increase in the basic wage. On 29 June, the Commission rejected the claim for acceptance of the total wage principle as such but awarded an increase in margins, such increase to be calculated as follows: 1.5 per cent of total wage (total wage being defined as basic wage plus margin). The increase calculated in accordance with this formula was to be added to the margins component of award wages.
- 1966** (i) The Commission again had a claim from the employers for fixation of a total wage, while the unions presented claims affecting both the basic wage and margins. Without rejecting the concept of a total wage, the Commission increased the basic wage by \$2 with effect from 11 June 1966 but deferred making any decision on margins; instead, it arranged for a Commissioner to make a detailed enquiry into the margins prescribed in the Metal Trades award, the object being to obtain data which would assist in fixation of new rates based on work value considerations. It also ordered that the *minimum wage* paid under the Metal Trades award should include a margin of \$3.75 above the appropriate basic wage (e.g. in Tasmania, basic wage \$33.40 plus \$3.75 giving minimum of \$37.15); the minimum wage in this award was nevertheless expressed as a total wage. (ii) Later in the year, the unions made a claim for an interim margins increase, the investigation by the Commissioner into work value aspects not having been completed. The claim was based on general economic grounds, i.e. erosion of purchasing power and increased productivity. In December, the Commission awarded margin increases in accordance with the following formula:

Commonwealth Interim Margins Award, 1966

| Margins in Current Awards | Percentage Increase Awarded |
|------------------------------------|-----------------------------|
| Under \$5.00 | 1.0 per cent of total wage |
| \$5.00 but less than \$7.50 | 1.5 per cent of total wage |
| \$7.50 but less than \$11.20 | 2.0 per cent of total wage |
| \$11.20 or more | 2.5 per cent of total wage |

The increase, calculated in accordance with the formula in the table, was to be treated in the same manner as the 1965 increase, i.e. added to current margins.

- 1967** The Commission heard a claim from the employers for fixation of a total wage, and a claim from the unions for increases in the basic wage and in margins. On 5 June, it gave its decision, and abolished the concept of the basic wage. Part of the finding read:

‘The Commission’s basic wage has become important in three specific ways. It has guaranteed a minimum wage to workers under its awards, its variation has been the means of giving general wage increases on economic grounds, and the secondary wage structure has been built on it. It has played a significant part in improving wage standards. Since the famous decision of Higgins J. some 60 years ago, the basic wage has served the workers of Australia well. It has been the keystone of our wages system and has a special quality.’

‘But in our view the time has come to overhaul our time-honoured system because a course is now open which is more consonant with modern requirements and which at the same time

will give better protection to employees. *We should now express wages as total wages and retain the minimum concept introduced by the Commission in July 1966.*'

The Commission awarded \$1 increases in total wage for both males and females, disregarding the 75 per cent relativity previously maintained in the male and female basic wage. This was a deliberate step, the Commission stressing the need for investigation and debate in the formulation of a policy aimed at gradually adjusting female total wages where adult males and females do equal work.

The Commission said that in future annual reviews, awards could be expressed in any one of four possible ways: (i) a flat amount added to the total wage (as in 1967); (ii) a flat percentage applied to the total wage (as in 1965); (iii) varying percentages applied to varying levels of total wage (as in December 1966); (iv) an entirely new formula. With regard to (iv), the Commission stated: 'We will not attempt to tie the hands of future benches in this regard.'

To summarise, the 1967 award meant the end of separate awards for the basic wage and for margins; the Commission's annual review, in future, will be concerned with the total wage and the case for an increase in the total wage will be argued on general economic grounds, principally erosion of purchasing power and increased productivity. While margins cases, as such, can no longer be argued, provision still exists in the arbitration system for a re-assessment of work value for individual occupations; however, when rates are revised as a result of work value cases, the new rates will be expressed as total wages and not as margins variations.

In the July 1966 award, the *minimum total wage* for a male adult employed under the Metal Trades award in Hobart was fixed at \$37.15 (i.e. \$3.75 above the Hobart Federal basic wage \$33.40). As a result of the June 1967 determination, this *minimum total wage* rose to \$38.15.

Total Wage Concept in Tasmania

The Commonwealth award of June 1967 was followed by a test case argued before the Chairman of the State Wages Boards. The employers asked for adoption of the total wage concept. The unions opposed this and argued for a \$7.30 increase in the basic wage; if a lesser amount were determined, then a *minimum total wage* of \$40.70 should nevertheless be fixed.

The decision in the test case (Electrical Trades) was that both male and female rates should be increased by \$1; the increase, however, should be regarded as *raising the basic wage* which would be retained for the present in State determinations. In the National Wage Case of October 1968, the *total wage concept* was again upheld but State Wages Boards did not follow the Federal lead; the basic wage is still retained in State determinations, expressed as \$35.75 (male) and \$27.40 (female).

(See Appendix C for 1968 National Wage Case.)

Equal Pay Legislation

Introduction

The concept of 'equal pay' has achieved partial recognition in some Australian States because there exist occupations in which men and women perform work which is identical (e.g. teaching, medical practice, etc.); such identity has given birth to industrial claims based on the principle of 'equal

pay for equal work'. The logic of such occupational situations was ignored in the past and it was only in 1950 that the Commonwealth Court of Conciliation and Arbitration fixed the female basic wage at 75 per cent of the male rate (it had previously been as low as 54 or 56 per cent). With regard to margins, there has been no universal rule but, in the Commonwealth Public Service, for example, certain female employees receive the same margin as males, but only the female basic wage.

N.S.W. Legislation (1959)

The first acceptance of the principle of equal pay for equal work came in N.S.W. in 1959, the Industrial Arbitration Act being amended to provide equal pay for males and females under certain circumstances. If the Industrial Commission or a Conciliation Committee was satisfied that male and female employees under an award were performing identical work, it was to prescribe the same margin for males and females. The basic wage was to be adjusted to equal the male rate in annual five per cent increments spread over the period 1959-1963.

Tasmanian Legislation (1966)

The N.S.W. legislation applied to employees in both the private and public sectors (excluding those in Commonwealth employment or under Commonwealth awards). In Tasmania, the approach to the problem was different in that the Parliament in 1966 passed legislation affecting only employees in the public sector. The *Public Service (Equal Pay) Act* 1966 applies to those employed by the State Government or employed by State authorities, e.g. the teaching service, the police force, the railway service, etc. The Act requires that wage-fixing authorities must first be satisfied in any application, that certain female employees are performing 'work of the same or a like nature and of equal value'. If this is established, then the authority is required to fix the same margins for all employees, irrespective of sex. This does still not give equal pay due to the lesser female basic wage. Accordingly the Act provides for annual five per cent increments in the female basic wage (80 per cent of the male basic wage from January 1968, 85 per cent from January 1969 and so on with equality reached in 1972).

The wage-fixing authorities specified in the Act include Wages Boards, the Public Service Tribunal, the Public Service Commissioner and any other person or body required to act as such by law. In actual practice, the majority of claims for an award variation will be made to the Public Service Tribunal, the principal wage-fixing authority for employees in the public sector.

National Wage Case, 1967

In awarding the \$1 increase to both males and females, the Commonwealth Conciliation and Arbitration Commission departed from the principle of maintaining a 75 per cent ratio between the male and female basic wage. This was done deliberately and the Commission's pronouncement in June 1967 referred to the eventual possibility of equal pay for equal work.

Whilst the basic wage continues to be prescribed in Tasmanian State awards, the provisions of the *Public Service (Equal Pay) Act* remain effective. If the total wage concept is adopted in State awards before 1972, it will be necessary to amend the Act and write new provisions so that those entitled to equal pay may receive it in accordance with the original programme.

Teachers' Case, 1968

In June 1968, the Public Service Tribunal gave a ruling affecting Tasmanian women teachers employed by the State Government; it held that they were doing work of the same or a like nature and of equal value. In general, women

teachers were already receiving the same margins as men so the effect of the Tribunal's decision was to increase the base rate component of their salary to 80 per cent of the male base rate, with effect from 23 May 1968. (A teacher's salary in June 1968 had three components: (i) base rate, \$33.40 male or \$25.05 female per week; (ii) \$1 per week loading, male and female; (iii) margin. The female base rate, \$25.05, was 75 per cent of the male base rate, \$33.40.) In accordance with the Act, the base rate for females will be steadily advanced until it equals the male rate in 1972.

(See Appendix C for 1968 National Wage Case.)

Weekly Wage Rates in Tasmania

Definitions

In this section, 'weekly wage rates' is used as a short title for '*weighted average minimum weekly wage rates*'. The rates are those applicable to adult males and adult females, and are those fixed in *awards*.

The minimum wage is the lowest rate payable for a particular occupation, and for most occupations it comprises the basic wage and 'secondary' wage payments, i.e. additional amounts such as margins for skill, etc. and loadings of various kinds. In the majority of cases such rates are prescribed in awards or determinations of Commonwealth or State industrial authorities or in agreements registered with them. Some rates are prescribed in unregistered agreements between employers and employees. The decision of the Arbitration Commission (June 1967) to end the basic wage does not affect the compilation, the basic data being still minimum award wages for individual occupations. The position in 1968 was that the basic wage was retained in the awards of certain States (including Tasmania) but no longer prescribed in the awards of other States or of the Commonwealth.

Weighting: To arrive at a weighted average rate for a particular field (e.g. rate for occupations in Tasmania covered by Commonwealth awards), certain data are required. The basic initial information is the award rate applying to each occupation and its relative significance (broadly, the numbers in each occupation).

The calculation of average minimum rates is based on the occupational structure existing in 1954. Weights for each industry and each occupation were derived from two sample surveys made by the Bureau in that year. The first was the Survey of Awards in April 1954 which showed the number of employees covered by individual awards, determinations and agreements, and provided employee weights for each industry as well as a basis for the Survey of Award Occupations made in November 1954. This second survey showed the number of employees in each occupation within selected awards, etc. in the various industries, thereby providing weights for each occupation.

The individual minimum wage rates combined to give the averages shown in the tables are those for representative occupations within each industry. They have been derived entirely from representative awards, determinations and agreements in force at the end of each period commencing with March 1939 for adult males, and March 1951 for adult females. In Australian figures for adult male rates, 2,313 individual award occupations are included; for adult female rates, 515; a lesser number is used in determining Tasmanian rates. By use of the industry and occupation weights derived from the surveys of 1954, rates for these occupations were combined to give weighted averages for each industry group for each State and for Australia. Because of coverage difficulties, the rural industry is not included.

Since the aim is to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, etc. which relate solely or mainly to salary-earners are excluded.

Weighted averages of the components of the total minimum weekly wage rate, i.e. basic wage, margin and loading, are calculated separately for adult male employees covered by Commonwealth awards, etc., and for those covered by State awards, etc.

'Commonwealth Awards, etc.': These include awards of, or agreements registered with, the Commonwealth Conciliation and Arbitration Commission, and determinations of the Commonwealth Public Service Arbitrator.

'State Awards, etc.': These include awards or determinations of, or agreements registered with, State industrial tribunals, together with certain unregistered agreements, where these are dominant in the particular industries to which they refer. (In Tasmania, the principal tribunals are the State Wages Boards.)

'Basic Wage Rates': These are weighted averages of the weekly rates prescribed in awards, etc. for the occupations included in the calculation. For industries other than mining, metropolitan basic wage rates have generally been used. However, there are a number of occupations for which basic wage rates other than the metropolitan rate are prescribed. In all such cases, the basic wage rate actually paid is used in the tables. As a result, the weighted average basic wage shown in this section differs from the Hobart basic wage appearing elsewhere.

'Margins': These are minimum amounts, in addition to the basic wage, awarded to particular classifications of employees for special features such as skill, experience, arduousness or other like factors.

'Loadings': These include industry loadings and other general loadings prescribed in awards, etc. for the occupations included in the calculation. Loadings that are not applicable to all workers in a specified award occupation (for example, those payable because of length of service; working in wet, dirty or confined spaces, etc.) are not included in the calculation.

Male and Female Rates

The following table summarises weekly wage rates for adult males and adult females in Tasmania from 1951 onwards. The averages include Commonwealth and State awards, etc. and are for all industry groups combined:

Weekly Wage Rates (a)
Adult Males and Adult Females—All Groups
(£)

| End of— | Adult Rate | | End of— | Adult Rate | |
|------------------|------------|--------|------------------|------------|--------|
| | Male | Female | | Male | Female |
| December—1951 .. | 23.82 | 16.56 | December—1960 .. | 35.15 | 23.88 |
| 1953 .. | 28.33 | 19.72 | 1961 .. | 36.27 | 24.82 |
| 1954 .. | 28.77 | 19.76 | 1962 .. | 36.48 | 24.83 |
| 1955 .. | 29.36 | 20.00 | 1963 .. | 37.29 | 25.21 |
| 1956 .. | 31.39 | 21.52 | 1964 .. | 39.69 | 27.04 |
| 1957 .. | 31.85 | 21.90 | 1965 .. | r40.73 | r27.94 |
| 1958 .. | 32.36 | 22.12 | 1966 .. | r43.23 | r29.80 |
| 1959 .. | 34.71 | 23.42 | 1967 .. | 45.19 | 31.62 |

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime), as prescribed in awards, determinations, etc.

r Revised.

Limitation: The wage rates shown in the tables in this section should not be regarded as actual current averages, but rather as indexes expressed in money terms, indicative of trends. The wage rates do not measure the relative level of minimum wages as between States.

Minimum weekly wage rates for adult males should not be compared with 'average weekly earnings per employed male unit' appearing in a later section of this chapter; the latter includes not only the earnings of adult wage-earners but also those of salaried employees, junior wage-earners and part-time and casual employees.

Rates in Industry Groups

In the next table, details are shown of Tasmanian weekly wage rates in the various industry groups for adult males and adult females; also the same information converted to index numbers with the Australian weighted average weekly wage rate for 1954 equated with 100:

**Weekly Wage Rates and Index Numbers (a)
Adult Males and Adult Females—Industry Groups, 31 December 1967**

| Industry Group | Adult Males | | Adult Females | |
|--|--------------------------|-------------------------|--------------------------|-------------------------|
| | Rates of Wage (\$) | Index Numbers (b) | Rates of Wage (\$) | Index Numbers (b) |
| Mining and Quarrying .. . | 45.65 | 161.6 | .. | .. |
| Manufacturing— | | | | |
| Engineering, Metals, Vehicles, etc. .. | 45.57 | 161.3 | 31.19 | 156.7 |
| Textiles, Clothing and Footwear .. | 41.43 | 146.7 | 29.34 | 147.4 |
| Food, Drink and Tobacco .. | 43.34 | 153.4 | 29.66 | 149.0 |
| Sawmilling, Furniture, etc. .. | 42.70 | 151.2 | | |
| Paper, Printing, etc. .. . | 45.00 | 159.3 | 30.63 | 153.9 |
| Other Manufacturing .. . | 43.76 | 154.9 | | |
| All Manufacturing Groups .. . | 44.22 | 156.6 | 29.80 | 149.7 |
| Building and Construction .. . | 46.17 | 163.5 | .. | .. |
| Railway Services .. . | 45.18 | 160.0 | | |
| Road and Air Transport .. . | 45.37 | 160.7 | | |
| Shipping and Stevedoring .. . | 43.28 | 153.2 | 35.18 | 176.7 |
| Communication .. . | 52.35 | 185.4 | | |
| Wholesale and Retail Trade .. . | 45.62 | 161.5 | 32.77 | 164.6 |
| Public Authority (n.e.i.) and Community and Business Services .. . | 48.34 | 171.2 | 36.17 | 181.7 |
| Amusement, Hotels, Personal Service, etc... . | 42.37 | 150.0 | 30.48 | 153.1 |
| All Industry Groups .. . | 45.19 | 160.0 | 31.62 | 158.8 |

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

(b) Base of index numbers: weighted average weekly wage rate, Australia, 1954 = 100.

Minimum Wage

In the 1967 and 1968 *Year Book*, the tables in this section were headed 'Minimum Weekly Wage Rates' but, in this volume, the title has been changed to 'Weekly Wage Rates' to avoid any confusion with a wage defined by the Commonwealth Conciliation and Arbitration Commission in June 1966. The Commission increased the basic wage by \$2 but also ordered that the *minimum wage* paid under the Metal Trades award should include a margin of \$3.75 above the appropriate basic wage (e.g. in Tasmania, basic wage \$33.40 plus \$3.75 giving minimum of \$37.15 in July 1966). The 'weekly wage rates' in the tables are statistical weighted averages and have no connection whatsoever with the *minimum wage* as defined and varied by the Arbitration Commission.

Index Numbers

In the previous table, the minimum weekly wage rates have been expressed as index numbers. It should be emphasised that the rates themselves are not actual current averages but are rather indexes expressed in money terms; as such they are indicative of trends rather than of levels.

The following table shows, in summary form, the index numbers for adult male and adult female minimum weekly wage rates in Tasmania from 1960:

**Weekly Wage Rates—Index Numbers, All Groups
Adult Males and Adult Females**

| End of— | Index Numbers (a) | | End of— | Index Numbers (a) | |
|------------------|-------------------|--------|-------------------|-------------------|--------|
| | Male | Female | | Male | Female |
| December—1960 .. | 124.5 | 120.0 | December—1966 .. | r153.1 | r149.7 |
| 1962 .. | 129.2 | 124.7 | March —1967 .. | 155.5 | 150.8 |
| 1963 .. | 132.0 | 126.6 | June —1967 .. | 156.1 | 152.5 |
| 1964 .. | 140.5 | 135.8 | September—1967 .. | 160.0 | 158.8 |
| 1965 .. | 144.2 | 140.4 | December—1967 .. | 160.0 | 158.8 |

(a) Base of index numbers: weighted average weekly wage rate, Australia, 1954 = 100.
r Revised.

Components of Weekly Wage Rates (Male)

The next table has been compiled to show the individual wage components i.e. basic wage, margin and loading and also the distinction between Commonwealth and State awards, etc. The two elements, Commonwealth and State, are combined to produce the adult male minimum weekly wage rate for Tasmania:

**Weekly Wage Rates Each December (a)
Components of Wage Rate, All Groups—Adult Males
(\$)**

| Particulars | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Commonwealth Awards, etc.— | | | | | | |
| Basic Wage .. | 29.33 | 29.33 | 31.21 | 31.20 | 33.24 | (b) |
| Margin .. | 6.48 | 7.12 | 7.37 | 8.23 | 8.47 | (b) |
| Loading .. | 0.26 | 0.34 | 0.56 | 0.78 | 1.00 | (b) |
| Total .. | 36.07 | 36.79 | 39.14 | 40.21 | 42.71 | 44.57 |
| State Awards, etc.— | | | | | | |
| Basic Wage .. | 29.42 | 29.48 | 31.39 | 31.39 | 33.39 | (b) |
| Margin .. | 6.74 | 7.64 | 7.94 | 8.86 | 9.03 | (b) |
| Loading .. | 0.93 | 0.96 | 1.21 | 1.27 | 1.61 | (b) |
| Total .. | 37.09 | 38.08 | 40.54 | 41.52 | 44.04 | 46.16 |
| All Awards, etc.— | | | | | | |
| Basic Wage .. | 29.37 | 29.39 | 31.28 | 31.28 | 33.30 | (b) |
| Margin .. | 6.58 | 7.32 | 7.59 | 8.47 | 8.69 | (b) |
| Loading .. | 0.53 | 0.58 | 0.82 | 0.97 | 1.24 | (b) |
| Total .. | 36.48 | 37.29 | 39.69 | 40.73 | 43.23 | 45.19 |

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

(b) Introduction of total wage concept in Commonwealth awards (June 1967).

The following table shows, for Tasmania, in summary form, male adult minimum weekly wage rates from 1939, in terms of basic wage, margin and loading:

Weekly Wage Rates From 1939 (a)
Components of Wage Rate, All Groups—Adult Males
(\\$)

| End of— | All Awards, etc. (Commonwealth and State) | | | |
|---------------|---|--------|---------|-------|
| | Basic Wage | Margin | Loading | Total |
| December—1939 | 7.64 | 1.51 | 0.07 | 9.22 |
| 1945 | 9.39 | 1.74 | 0.43 | 11.56 |
| 1950 | 15.98 | 3.37 | 0.45 | 19.80 |
| 1955 | 24.03 | 4.81 | 0.52 | 29.36 |
| 1957 | 26.47 | 4.92 | 0.46 | 31.85 |
| 1958 | 26.89 | 5.08 | 0.39 | 32.36 |
| 1959 | 28.14 | 6.15 | 0.42 | 34.71 |
| 1960 | 28.38 | 6.35 | 0.42 | 35.15 |
| 1961 | 29.38 | 6.44 | 0.45 | 36.27 |
| 1962 | 29.37 | 6.58 | 0.53 | 36.48 |
| 1963 | 29.39 | 7.32 | 0.58 | 37.29 |
| 1964 | 31.28 | 7.59 | 0.82 | 39.69 |
| 1965 | 31.28 | 8.46 | 0.97 | 40.73 |
| 1966 | 33.29 | 8.65 | 1.24 | 43.23 |
| 1967 | (b) | (b) | (b) | 45.19 |

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

(b) Introduction of total wage concept in Commonwealth awards (June 1967).

Australian Rates

In the next table, rates and index numbers are shown for each Australian State. Neither the wage rates nor the corresponding index numbers measure the relative level of minimum wages as between States. Both measures, i.e. the wage rates and the corresponding index numbers, are indicative of trends but it should be noted that the wage rates are not to be regarded as actual current averages but rather as indexes expressed in money terms.

**Australia—Weekly Wage Rates—All Groups
Adult Males**

| End of— | N.S.W. | Vic. | Qld. | S.A. | W.A. | Tas. | Australia |
|------------------------|--------|-------|-------|-------|-------|-------|-----------|
| RATES OF WAGE (a) (\$) | | | | | | | |
| December—1963 | 38.28 | 37.20 | 37.00 | 36.40 | 37.50 | 37.29 | 37.55 |
| 1964 | 40.27 | 39.47 | 39.22 | 38.69 | 38.82 | 39.69 | 39.65 |
| 1965 | 41.08 | 40.34 | 41.66 | 39.48 | 40.49 | 40.73 | 40.76 |
| 1966 | 43.27 | 42.78 | 43.56 | 41.75 | 43.37 | 43.23 | 43.04 |
| 1967 | 45.21 | 44.59 | 45.51 | 43.77 | 45.04 | 45.19 | 44.94 |

INDEX NUMBERS (b)

| | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|
| December—1963 | 135.5 | 131.7 | 131.0 | 128.9 | 132.8 | 132.0 | 133.0 |
| 1964 | 142.6 | 139.8 | 138.9 | 137.0 | 137.5 | 140.5 | 140.4 |
| 1965 | 145.5 | 142.8 | 147.5 | 139.8 | 143.4 | 144.2 | 144.3 |
| 1966 | 153.2 | 151.5 | 154.2 | 147.8 | 153.6 | 153.1 | 152.4 |
| 1967 | 160.1 | 157.9 | 161.1 | 155.0 | 159.5 | 160.0 | 159.1 |

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime), as prescribed in awards, determinations, etc.

(b) Base of index numbers: weighted average weekly wage rate, Australia, 1954 = 100.

Hourly Wage Rates in Tasmania*General*

Hourly wage rates is the short title for '*weighted average* minimum hourly rates payable'. The concept is completely analogous to that embodied in minimum weekly wage rates and the calculation is similarly based on rates prescribed in awards or determinations of Commonwealth and State industrial authorities or in agreements registered with them.

Definitions

Hours of Work: In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages of hourly rates.

Rural industry is excluded from the calculation of minimum weekly wage rates. Rural industry, and in addition the shipping and stevedoring industry, are excluded from the calculation of minimum hourly wage rates; the shipping and stevedoring group is excluded since definite particulars for the computation of hourly wage rates are not available.

The 40-hour week has operated in Australia generally from 1 January 1948 (N.S.W., from 1 July 1947). Nevertheless the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or States. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and agreements for a full working week, in respect of adult male workers in all industry groups except rural, and shipping and stevedoring, at 30 June 1967, were: N.S.W., 39.95; Victoria, 39.97; Queensland, 39.98; S.A., 39.96; W.A., 39.89; Tasmania, 39.97; Australia, 39.96. Corresponding figures for adult female workers at 30 June 1967, were: N.S.W., 39.53; Victoria, 39.81; Queensland, 39.70; S.A., 39.77; W.A., 39.78; Tasmania, 39.63; Australia, 39.67.

Weekly Wage Rate Definitions: Apart from exclusion of the shipping and stevedoring industry, the definitions in the section headed 'weekly wage rates' apply with equal force to the calculation of hourly wage rates.

Summary of Details

The following table shows, for Tasmania, minimum hourly wage rates for adult male and adult female workers in all industries (except rural, and shipping and stevedoring) since 1939:

Hourly Wage Rates, All Groups (a)
Adult Males and Adult Females

| End of— | Males (b) | Females (c) | End of— | Males (b) | Females (c) |
|-------------------|-----------|-------------|-------------------|-----------|-------------|
| RATE OF WAGE (\$) | | | | | |
| December—1939 .. | 0.2095 | n.a. | December—1964 .. | 0.9946 | 0.6822 |
| 1945 .. | 0.2642 | n.a. | 1965 .. | r1.0211 | 0.7052 |
| 1950 .. | 0.4952 | n.a. | 1966 .. | r1.0842 | r0.7520 |
| 1955 .. | 0.7371 | 0.5056 | March —1967 .. | 1.1012 | 0.7574 |
| 1960 .. | 0.8808 | 0.6037 | June —1967 .. | 1.1056 | 0.7664 |
| 1961 .. | 0.9086 | 0.6275 | September—1967 .. | 1.1332 | 0.7979 |
| 1963 .. | 0.9340 | 0.6361 | December—1967 .. | 1.1335 | 0.7979 |

**Hourly Wage Rates, All Groups (a)
Adult Males and Adult Females—continued**

| End of— | Males (b) | Females (c) | End of— | Males (b) | Females (c) |
|-------------------|-----------|-------------|-------------------|-----------|-------------|
| INDEX NUMBERS (d) | | | | | |
| December—1939 .. | 29.6 | n.a. | December—1964 .. | 140.6 | 136.0 |
| 1945 .. | 37.3 | n.a. | 1965 .. | 144.3 | r140.6 |
| 1950 .. | 70.0 | n.a. | 1966 .. | r153.2 | r149.9 |
| 1955 .. | 104.2 | 100.8 | March —1967 .. | 155.6 | 151.0 |
| 1960 .. | 124.5 | 120.3 | June —1967 .. | 156.3 | 152.8 |
| 1962 .. | 129.2 | 125.1 | September—1967 .. | 160.2 | 159.0 |
| 1963 .. | 132.0 | 126.8 | December—1967 .. | 160.2 | 159.0 |

(a) Weighted average minimum hourly rates payable.

(b) All industry groups except rural, and shipping and stevedoring.

(c) All industry groups except rural, mining and quarrying, and building and construction.

(d) Base of index numbers: weighted average hourly wage rate, Australia, 1954 = 100.

r Revised.

Average Weekly Earnings in Tasmania

Source of Data

The figures in the following section are derived from particulars of employment and of wages and salaries recorded on pay-roll tax returns, from other direct collections and from estimates of the unrecorded balance. (In general, businesses with pay-rolls of less than \$1,734 per month are exempt from pay-roll tax and do not need to supply monthly details of employment and of wages and salaries.) Pay of members of the defence forces is not included.

Definitions

'Employed Male Unit': This is a special unit devised to overcome the difficulty that particulars of wages and salaries are not available separately for males and females. (The basic data available are the number of males, the number of females and the total pay-roll only.) The number of females is converted to a *lesser equivalent number* of males by taking into account the approximate ratio of female to male earnings; a divisor for deriving average 'male' earnings is then obtained by adding the actual number of males to the calculated number of 'male equivalents'. The divisor so obtained consists of 'employed male units'. As it is not possible to estimate the ratio of male to female earnings in the several States, the same ratio is used for each State. Because the actual ratio may vary between States, precise comparisons between average earnings in different States cannot be made on the basis of the figures.

Components of Pay-roll: Pay-roll includes, in addition to wages at award rates, the earnings of salaried employees, over-time earnings, over-award and bonus payments, and payments made in advance or retrospectively, (e.g. advances of annual leave pay). Included also are the wages and salaries, not only of adults, but also of juniors; the earnings may relate to full-time, part-time or casual workers.

Invalid Comparison: Average earnings per employed male unit cannot be compared with male minimum weekly wage rates shown in the previous section. Minimum weekly wage rates relate to award rates for adult male wage earners in non-rural industry for a full week's work, at the end of each month or year; the average weekly earnings per employed male unit are derived from the pay-roll concept shown in the previous paragraph, and obviously cover a wider field of earnings and of wage and salary earners.

Seasonal Influence: Quarterly figures are affected by seasonal influences. Comparisons as to trends are generally best made by relating complete years or corresponding periods of incomplete years. However, from December quarter 1963, comparisons with corresponding quarters of earlier years are affected by additional prepayments arising from three weeks' leave.

Annual and Quarterly Details

The following table shows, for Tasmania, average weekly earnings per employed male unit; the figures are arranged both as quarterly and annual averages.

**Average Weekly Earnings Per Employed Male Unit (a)
(\$)**

| Year | Average for Quarter Ending— | | | | Average for Year |
|---------------|-----------------------------|----------|-------|-------|------------------------|
| | September | December | March | June | |
| 1957-58 | 36.70 | 38.70 | 37.50 | 40.20 | 38.30 |
| 1958-59 | 37.90 | 41.20 | 37.60 | 40.30 | 39.20 |
| 1959-60 | 40.20 | 42.30 | 40.70 | 44.50 | 41.90 |
| 1960-61 | 41.90 | 44.20 | 42.50 | 44.70 | 43.30 |
| 1961-62 | 43.00 | 45.80 | 44.50 | 47.80 | 45.30 |
| 1962-63 | 44.90 | 45.90 | 44.50 | 48.30 | 45.90 |
| 1963-64 | 46.40 | 50.70 | 46.50 | 49.90 | 48.40 |
| 1964-65 | 49.60 | 51.90 | 49.70 | 52.70 | 51.00 |
| 1965-66 | 50.50 | 56.40 | 53.10 | 55.20 | 53.80 |
| 1966-67 | 54.90 | 59.50 | 55.50 | 59.50 | 57.40 |
| 1967-68 | 59.20 | 63.30 | 58.90 | 62.90 | 61.10 |

(a) For definitions, see earlier section headed 'Definitions'.

Australian Details

The next table shows average weekly earnings per employed male unit for each Australian State. The calculation of the number of 'employed male units' depends on use of a common ratio of male to female earnings for all States; because the actual ratio may vary between States, *precise* comparisons between average earnings in different States cannot be made on the basis of the figures shown.

**Australia—Average Weekly Earnings Per Employed Male Unit (a)
(\$)**

| Period | N.S.W. (b) | Vic. | Qld. | S.A. (c) | W.A. | Tas. | Australia |
|-----------------|------------|-------|-------|----------|-------|--------------|-----------|
| 1955-56 .. | 37.90 | 37.80 | 33.00 | 35.90 | 33.90 | 35.60 | 36.70 |
| 1960-61 .. | 48.10 | 47.20 | 41.60 | 43.40 | 41.60 | 43.30 | 46.00 |
| 1965-66 .. | 58.60 | 59.20 | 52.50 | 53.80 | 54.10 | 53.80 | 57.00 |
| 1966-67 .. | 62.40 | 63.00 | 55.60 | 56.90 | 58.30 | 57.40 | 60.70 |
| Dec. Qtr 1966.. | 63.80 | 64.80 | 57.80 | 57.80 | 59.50 | 59.50 | 62.30 |
| Dec. Qtr 1967.. | 67.40 | 68.60 | 61.60 | 61.60 | 63.80 | 64.80 | 66.10 |

(a) For definitions, see section headed 'Definitions'.

(b) Includes the Australian Capital Territory.

(c) Includes the Northern Territory.

Surveys of Weekly Earnings and Hours

General

Sample surveys in respect of most employers in the private sector subject to pay-roll tax have been conducted by the Bureau as at the last pay period in October. The results of the surveys are based on returns from stratified

random samples of private employers subject to pay-roll tax; for Australia as a whole, the 1967 survey was based on the returns of 4,080 employers whose employees numbered 1,567,000 males and 684,000 females. The 1965 survey is not included in the following table since it was conducted for a special purpose and is not strictly comparable with those for other years.

Definitions

Weekly Earnings: gross earnings before taxation and other deductions have been made; includes *overtime earnings*, ordinary time earnings, shift allowances, penalty rates, commission and similar payments; and that part of paid annual leave, paid sick leave, long service leave and paid holidays taken during the specified pay-period. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly. Retrospective payments are excluded.

Juniors: those under 21 years of age not paid adult rates (but 'adults' may include those under 21 years receiving adult rates).

Full-time Employees: employees who ordinarily work 30 hours or more a week and who received pay for the last pay-period in October.

Results of Surveys

The next table shows, for Tasmania: (i) average weekly earnings; (ii) average weekly hours paid for; (iii) average hourly earnings. The year 1965 has been excluded from the table since the survey held then was for a special purpose and its results are not strictly comparable with those for other years.

Average Earnings and Hours (a), Private Employment—All Industry Groups (b)

| Particulars | October | | | | |
|------------------------------------|---------|-------|-------|-------|-------|
| | 1962 | 1963 | 1964 | 1966 | 1967 |
| Average Weekly Earnings (c)— | \$ | \$ | \$ | \$ | \$ |
| Adult Males | 47.50 | 48.90 | 52.40 | 60.10 | 62.20 |
| Junior Males | 22.60 | 22.70 | 24.40 | 27.80 | 30.90 |
| Adult Females | 28.70 | 29.10 | 30.60 | 33.70 | 35.70 |
| Junior Females | 17.80 | 18.40 | 19.40 | 22.00 | 23.80 |
| Average Weekly Hours Paid for (c)— | hrs | hrs | hrs | hrs | hrs |
| Adult Males | 40.6 | 41.4 | 41.7 | 42.6 | 42.0 |
| Junior Males | 39.8 | 40.2 | 40.1 | 40.7 | 40.4 |
| Adult Females | 39.5 | 39.2 | 39.0 | 39.1 | 38.8 |
| Junior Females | 39.4 | 39.1 | 39.7 | 39.5 | 38.9 |
| Average Hourly Earnings (c)— | \$ | \$ | \$ | \$ | \$ |
| Adult Males | 1.17 | 1.18 | 1.26 | 1.41 | 1.48 |
| Junior Males | 0.57 | 0.56 | 0.61 | 0.68 | 0.77 |
| Adult Females | 0.73 | 0.74 | 0.78 | 0.86 | 0.92 |
| Junior Females | 0.45 | 0.47 | 0.49 | 0.56 | 0.61 |

(a) Private employees only. Excludes managerial, executive, professional and higher supervisory staff. Full-time employees only included.

(b) Excludes rural industry, and private domestic services.

(c) Last pay period in October.

The following table analyses total earnings, for Tasmania, to show their overtime component in October 1967:

Average Weekly Overtime and Ordinary Time Earnings (a), Private Employment (b)—October 1967
(\$)

| Particulars | Average Weekly Overtime Earnings (a) | Average Weekly Ordinary Time Earnings (a) | Average Weekly Total Earnings (a) |
|---------------------------------------|--------------------------------------|---|-----------------------------------|
| Adult Males— | | | |
| Manufacturing— | | | |
| Founding, Engineering, Vehicles, etc. | 6.30 | 59.20 | 65.50 |
| Other | 5.90 | 53.60 | 59.50 |
| Total | 6.00 | 55.30 | 61.30 |
| Non-manufacturing | 7.20 | 56.10 | 63.30 |
| All Industry Groups .. | 6.50 | 55.70 | 62.20 |
| Junior Males—All Industry Groups .. | 1.70 | 29.30 | 30.90 |
| Females—All Industry Groups— | | | |
| Adult | 0.80 | 34.90 | 35.70 |
| Junior | 0.40 | 23.40 | 23.80 |

(a) Averages for *all* employees represented in the survey.

(b) See previous table for definitions.

Award Wages, Hobart

The following table shows the award wages prescribed for selected occupations in determinations of State Wages Boards at two points in time: March 1967 and May 1968. All award rates show an increase of at least \$1.00 as a result of the July 1967 basic wage variation; other increases reflect, in some degree, effects of the Metal Trades work value case (December 1967 and February 1968) in the Federal jurisdiction; whilst not bound to follow any particular formulae embodied in Federal awards, Wages Boards have followed the principle of awarding substantial increases to some occupational categories within the State jurisdiction.

Award Wages—Weekly Adult Rates (a) Hobart, March 1967 and May 1968

| Occupation | Weekly Wage | | |
|--|-------------|----------|----------|
| | March 1967 | May 1968 | Increase |
| Basic Wage Variation (\$1.00) Only— | \$ | \$ | \$ |
| Butcher | 47.30 | 48.30 | 1.00 |
| Driver—Truck (3-6 tons) | 45.10 | 46.10 | 1.00 |
| Farm Labourer, experienced | 37.70 | 38.70 | 1.00 |
| Slaughterman | 53.75 | 54.75 | 1.00 |
| Storeman and Packer | 41.00 | 42.00 | 1.00 |
| Basic Wage Variation (\$1.00) plus Margin Variation— | | | |
| Pattermaker | 48.90 | 59.05 | 10.15 |
| Boilermaker | 46.20 | 54.10 | 7.90 |
| Sheetmetal Worker | 46.20 | 54.10 | 7.90 |
| Welder, 1st Class | 46.20 | 54.10 | 7.90 |
| Electrical Mechanic, 'A' Grade | 49.30 | 56.10 | 6.80 |
| Fitter | 47.30 | 54.10 | 6.80 |
| Plumber | 48.00 | 54.10 | 6.10 |

Award Wages—Weekly Adult Rates (a) Hobart, March 1967 and May 1968—continued

| Occupation | Weekly Wage | | |
|---|-------------|----------|----------|
| | March 1967 | May 1968 | Increase |
| Basic Wage Variation (\$1.00) plus Margin Variation—ctd. | | | |
| Bricklayer | 47.30 | 52.90 | 5.60 |
| Carpenter | 47.30 | 52.90 | 5.60 |
| Nurse, Registered | 39.17 | 44.20 | 5.03 |
| Driver, fork-lift truck | 41.80 | 45.30 | 3.50 |
| Quarryman | 41.05 | 43.60 | 2.55 |
| Baker, operative | 46.20 | 48.30 | 2.10 |
| Pastrycook | 44.85 | 46.95 | 2.10 |
| Clerk—third year's experience— | | | |
| Male | 43.60 | 45.50 | 1.90 |
| Female | 32.70 | 34.40 | 1.70 |
| Hairdresser— | | | |
| Male | 43.25 | 45.15 | 1.90 |
| Female | 32.52 | 34.75 | 2.23 |
| Shop Assistant—third year's experience— | | | |
| Male | 43.60 | 45.50 | 1.90 |
| Female | 32.70 | 34.40 | 1.70 |
| Builders' Labourer, unskilled (hourly engagement) .. | 44.40 | (b)46.26 | (b)1.86 |
| Timber Faller (except pine) | 42.05 | 43.85 | 1.80 |

(a) For a 40-hour week in selected occupations covered by State Wages Boards' Determinations.

(b) Includes disability allowance.

WAGE-FIXING AUTHORITIES

Tasmanian State Wages Boards

History

The evolution of the Tasmanian Wages Boards system is described in the 1968 *Year Book*; the following section briefly summarises the system.

Constitution

A wages board is set up for the common trade, industry or profession of each employers' group (e.g. Builders and Painters, embracing employers of bricklayers, carpenters, painters, glaziers and builders' labourers). On each board, of which there are about 70, the employers and the employees have equal representation; one board (Electrolytic Zinc) has eight representatives for each while, at the other extreme, the Fuel Merchants Board has only one representative for each. The *Wages Boards Act 1920* was amended in 1961 to provide for a full-time government-appointed Chairman.

Members of Boards

Board members (both for employers and employees) are selected and appointed by the Minister for a three-year term. He may re-appoint the same members unless an objection is lodged, in which case fresh nominations are called for and the Minister must make a selection. If a further objection is lodged, the matter is decided by an election, the State Chief Electoral Officer usually being asked to conduct the ballot.

Legal practitioners are disqualified as members of boards and there are restrictions on the ratio of specialists who can be appointed (i.e. officers of trade unions and employers' organisations must not constitute the whole representation on any board).

Role of Chairman

The Chairman's chief power at meetings of boards derives from the fact that he has a casting vote; he wields no arbitral power but is enjoined, when there is equal division between the representative members to do all things ('whether by adjourning... by making suggestions, consulting with members... or otherwise') needful to obtain agreement of the board, before deciding the matter at issue on his casting vote. From the meeting's recorded decisions, the Chairman drafts a statement of the amended wage-rates, allowances and conditions; this is known as a *determination* and upon its gazettal it becomes law.

Test Cases

On occasion, issues are raised which obviously have very wide implications, e.g. general margins claims, claims for increased annual leave, etc. The meeting of the particular wages board raising the issue may be adjourned and a wider conference convened at which all major employer and employee groups are represented. The question can then be argued as one affecting a number of boards, or often all boards, but the final outcome is a determination affecting the particular wages board which raised the issue. This determination then sets the pattern for the variation of determinations of other wages boards. An amendment of the Act in 1966 provides for the variation of any wages board's determination by written application of *all* representative members, if the Chairman approves; this obviates the need for many formal meetings and also allows the outcome of test cases to be speedily adopted in the determinations of all boards.

Powers of Boards

Every board *must* determine minimum rates of wages, and the ordinary hours of work for employees. It *must* determine which adult employees are tradesmen, and specify, where the proportion of junior workers is limited, the class of work they can do. There was previously a 14-day limit on retrospectivity of determinations but the Act was amended in 1967; dependent on the Chairman's decision, determinations now become effective from the date on which the first meeting was called by the Minister, or any earlier date on which a party applied to the Minister to convene a meeting.

Other working conditions e.g. penalty rates, disability allowances, etc. *may* be the subject of wages boards' determinations. The permissive powers of the boards are contained in the Act which was amended in 1967 to permit determinations affecting bereavement leave, free protective clothing and free uniforms.

Industrial Disputes

Under the Act, the Minister may call a compulsory conference for the purpose of preventing or settling industrial disputes. Those summoned may include not only the direct participants, but also other persons concerned in industrial matters which bear on the dispute or, even more broadly, any persons at all whose attendance may facilitate a settlement. By an amendment of the Act in 1960, the conference Chairman has the power to make a written order directing certain action to be taken, if he considers it will prevent or settle the dispute; recipients of such orders are bound to comply, the penalty for ignoring an order being \$200.

The compulsory conference is presided over by a person directed by the Minister but, in practice, the Chairman of Wages Boards is given this conciliation role if his other duties permit.

The Tasmanian Public Service Tribunal

Establishment: The *Public Service Tribunal Act 1958*, together with the regulations made thereunder came into operation on 1 December 1959, and by this Act provision was made for the setting up of a single wage-fixing authority for the employees of government and semi-government instrumentalities.

Function: Briefly, the Act provides for the establishment of the Public Service Tribunal, and vests in it the power and functions of making principal awards for the purpose of determining the salaries and specified conditions of service of employees in the public service, the teaching service, the police force, public hospitals, and in various statutory authorities and State instrumentalities as prescribed. These functions include the making of determinations in respect of hours of work, qualifications required for advancement to higher grades, and rates of relieving, travelling, mileage, proficiency, lodging and meal allowances.

Members: The Tribunal is composed of a full-time chairman, and four part-time members, one being the Government nominee, and the others being the elected representatives of the police force, the teaching service and the general service respectively. For each hearing the Tribunal consists of the Chairman, the Government nominee, and the appropriate elected member, according to the group affected by the claim being heard. In September 1968, an amendment to the Act was proclaimed, resulting in the appointment of a full-time Deputy-Chairman (thus allowing two simultaneous hearings).

'Authorities' and 'Organisations': The Act provides for employer authorities and for the formation of employee organisations, known respectively as 'Controlling Authorities' and 'Service Organisations'. These, together with the Chief Secretary as Minister administering the Act on behalf of the Government, constitute the parties entitled to be represented and appear before the Tribunal in its proceedings. At present, there are 10 controlling authorities prescribed, and 24 service organisations registered under the Act, and since the individual employee has no right to instigate proceedings, all approaches to the Tribunal must be through his controlling authority or service organisation.

Lodging of Claims: Awards of the Tribunal are current for a statutory period of three years, and thereafter continue in force until revoked by a subsequent principal award. However, claims to amend an award may be made within this term on the several grounds prescribed by the Act, which include the correction of defects or anomalies, and variations in the basic wage or in awards of wage-fixing authorities in other States. In this way, a considerable degree of flexibility is introduced and parties are allowed access to the Tribunal in the event of changed circumstances during the term of an award. In 1968, the Act was amended to allow the making of consent awards.

Obligation Imposed on Tribunal: In the exercise of its functions, the Tribunal is required to have regard to: (a) the necessity for promoting the efficiency of employees in the public service; (b) the latest awards of the Commonwealth Conciliation and Arbitration Commission; (c) the rates of remuneration, direct and indirect, and the working conditions generally, prevailing in industry; (d) any changes in the cost of living; and (e) awards affecting the public services of other Australian States and the Commonwealth, if the Tribunal considers them relevant.

Classification: In making awards, the Tribunal is empowered to determine, '... scales of salaries for grades, divisions and occupational groups of employees, and for sub-divisions of those grades, divisions and occupational

groups', but the power to classify employees within these scales remains with the controlling authorities. Within two months of such a classification being made, a service organisation, any member of which is affected thereby, may apply to the Tribunal to have the classification varied or disallowed, and in dealing with such an application, the Tribunal may, if it so determines, classify or grade the holder of an individual position within the terms of the appropriate award. It has no power, except where a new position is created, or where an appeal against a classification by a controlling authority is upheld, to determine the salary to be paid the holder of a particular office, or to make a classification or grading in respect thereof.

Total Wage Decision, 1967: The total wage decision of the Commonwealth Conciliation and Arbitration Commission in June was followed shortly afterwards by an award of the Tribunal. The same quantum of increase (\$1 male and female) was adopted but not incorporated as part of the base rate; service salaries therefore had three components: (i) base rate; (ii) margin; (iii) a \$1 loading. The base rate (\$33.40 males and \$25.05 females) was \$1 below the basic wage fixed by State Wages Boards.

Total Wage Decision, 1968: The Tribunal retained the service base rate of \$33.40 (males) and \$25.05 (females) but increased the loading from \$1.00 to \$2.35 per week. This decision had the same effect as the determination of State Wages Boards lifting the basic wage to \$35.75 (males) and \$27.40 (females).

Equal Pay Decision: In June 1968, the Tribunal gave its decision in the women teachers' equal pay case. This is dealt with in an earlier section of the chapter.

Industrial Disputes

The following table measures the effect of industrial disputes on the Tasmanian economy in terms of working days lost and the estimated loss in wages. The disputes described are those involving a stoppage of 10 *man-days* or more (80 men stopping for one hour is the equivalent of 10 man-days).

Industrial Disputes (a)

| Year | Number of Disputes | Workers Involved | Working Days Lost | Estimated Loss in Wages (\$) |
|---------------|--------------------|------------------|-------------------|------------------------------|
| 1960 | 40 | 9,142 | 6,991 | 55,200 |
| 1961 | 14 | 4,661 | 4,622 | 38,200 |
| 1962 | 18 | 5,126 | 3,993 | 35,000 |
| 1963 | 11 | 5,019 | 2,933 | 27,000 |
| 1964 | 8 | 1,898 | 1,939 | 18,000 |
| 1965 | 17 | 5,131 | 3,894 | 41,400 |
| 1966 | 14 | 2,541 | 3,119 | 34,800 |
| 1967 | 29 | 6,207 | 7,290 | (b) 82,300 |

(a) Involving a stoppage of ten man-days or more.

(b) The estimated Tasmanian loss was 1.13 per cent of the Australian total in 1967.

Chapter 11

FINANCE

PUBLIC FINANCE

Commonwealth and State

Change in Relationship

Before Tasmania became an original State of the Commonwealth, the responsibility for raising revenue and borrowing loan moneys had rested with the Tasmanian Government. Due to developments since Federation, the present reality is that Tasmania, in common with other Australian States, has limited ability to raise the money required for revenue and capital purposes; the Commonwealth Government, in the same period, has become almost the exclusive channel for loan funds for State purposes, and supplements State revenue by massive grants from its own funds. The emergence of the Commonwealth as the dominating influence in the financial transactions of the State Governments can be traced to three events:

- (1) under the Constitution, the States surrendered the right to levy customs and excise duties, such revenue sources passing exclusively to the Commonwealth;
- (2) under the *Financial Agreement Act 1927*, the Commonwealth became the borrowing agent for the States;
- (3) during World War II, under the Uniform Tax Scheme, the Commonwealth became the sole authority levying taxes upon the income of persons and companies, a war-time measure which has continued to this day.

The result of these changed relationships can be summarised as follows:
(i) the Commonwealth Government, as the channel for loan funds for State purposes, exercises a substantial degree of control over public investment;
(ii) to carry out functions for which their revenue is entirely inadequate, the States have become heavily dependent on the Commonwealth Government for general and specific grants; the Commonwealth Government is therefore placed in a position to exercise a substantial degree of control over the ordinary public expenditure of the States.

Principal Activities of the States

The Federal Constitution lists the matters regarding which the Commonwealth Parliament has power to legislate. Some of these powers are given exclusively to the Commonwealth (e.g. defence, customs and excise) but, in many matters, the Commonwealth and State Governments have concurrent powers, Commonwealth law prevailing where there is conflict. Matters other than those listed in the Constitution remain the concern of the States. Principal government activity at State level embraces education, health and welfare services, the development of internal resources, land settlement, soil conservation, maintenance of law and order and the provision of public utility services such as roads, electricity, public transport and water supply. Such

activities are either undertaken by State Departments or by statutory and local government bodies created under State legislation. The most obvious form of revenue for the discharge of these functions is State taxation but the Commonwealth exercises a practical monopoly over the more lucrative tax sources (e.g. customs and excise, income tax, sales tax, pay-roll tax, etc.). A responsibility therefore rests on the Commonwealth to supplement State revenues.

Financial Assistance Grants

The (Federal) *States Grants (Income Tax Reimbursement) Act 1942* provided for grants to the States as compensation for vacating the field of income tax. Similar grants, referred to as *Tax Reimbursement Grants*, continued until 1958-59 but the passage of the (Federal) *States Grants Act 1959* resulted in a changed formula for calculation of the grant. The essential features of the formula were as follows:

- (i) The base year grant (1959-60) for Tasmania was fixed at \$21,826,000.
- (ii) The grant for following years was calculated by applying three factors: (i) percentage increase in State population; (ii) percentage variation in Australian average wages per person employed; (iii) a constant betterment factor of 1.1 applied to the percentage wage variation.

As from 1965-66, a new formula was announced for application over a five-year period. The betterment factor was raised to 1.2 per cent and was to become a *direct multiplier* (previously the betterment factor had been applied to the percentage wage variation).

The calculation of the grant for 1966-67 illustrates the application of the new formula: (i) grant (1965-66), \$32,130,632; (ii) percentage increase in Tasmanian population in year 1966, 1.157; (iii) percentage increase in average wages per Australian employed (1965-66 over 1964-65), 5.0774809 per cent; (iv) betterment factor, 1.2 per cent.

Calculated grant (1966-67) =

$$\$32,130,632 \times 1.01157 \times 1.050774809 \times 1.012$$

$$= \$34,562,517;$$

in 1966-67, the Commonwealth made a further grant of \$210,335 to be added to Tasmania's formula grant.

The following shows the amounts received as Financial Assistance Grants:

**Financial Assistance Grants (a)—Receipts by Tasmania
(\$)**

| Year | Amount | Year | Amount | Year | Amount |
|------------|------------|------------|------------|-------------|------------|
| | \$ | | \$ | | \$ |
| 1949-50 .. | 4,445,148 | 1955-56 .. | 10,704,450 | 1961-62 .. | 25,671,238 |
| 1950-51 .. | 5,217,170 | 1956-57 .. | 12,048,712 | 1962-63 .. | 26,616,104 |
| 1951-52 .. | 7,999,974 | 1957-58 .. | 13,435,384 | 1963-64 .. | 27,626,296 |
| 1952-53 .. | 9,069,516 | 1958-59 .. | 14,539,428 | 1964-65 .. | 29,297,286 |
| 1953-54 .. | 9,663,204 | 1959-60 .. | 21,826,000 | 1965-66 .. | 32,130,632 |
| 1954-55 .. | 10,152,662 | 1960-61 .. | 23,960,360 | 1966-67 (b) | 34,772,852 |

(a) Referred to as *Tax Reimbursement Grants* from 1942-43 to 1958-59. (Formula grants plus supplementary grants.)

(b) Includes \$210,335 special supplementary grant.

The introduction of the new financial assistance grant formula in 1959 had one notable effect—it allowed S.A. to cease being a claimant State for annual allocations of the *Special Grant* (*Section 96*) and resulted in the claimant States being reduced to two, Tasmania and W.A. The operation of *Special Grants* and their allocation is discussed in the next section.

Special Grants (Section 96 of the Constitution)

From 1 July 1968, W.A. ceased, at its own request, to be a claimant State for receipt of Special Grants.

Section 96 of the Constitution reads: 'During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any State on such terms and conditions as the Parliament thinks fit'.

The Commonwealth Grants Commission was established in 1933 and consists of three members on a part-time basis assisted by a full-time staff. In its third report (1936) it fixed upon the principle of financial need, which was expressed in the following terms: 'Special grants are justified when a State through financial stress from any cause is unable efficiently to discharge its functions as a member of the federation and should be determined by the amount of help found necessary to make it possible for that State by reasonable effort to function at a standard not appreciably below that of other States'. In arriving at its recommendations, the Commission each year makes a detailed comparison of the budget results of the claimant States with those of the non-claimant States.

Prior to the passage of the (Federal) *States Grants Act* 1959, the claimant States had been Tasmania, W.A. and S.A. The new formula evolved under the *States Grants Act* 1959 had been devised partly in reaction to a claim by Victoria and Queensland to be also considered as claimant States; in effect, the new scale of increased grants under this legislation resulted in the number of claimant States falling to two, W.A. and Tasmania. The Grants Commission could then have used the accounts of the four non-claimant States to reach a basis for comparison; it finally decided to adopt a two-State standard, based on the budgets of N.S.W. and Victoria. The Commission had lately indicated that it would use a four-State standard when 1970-71 accounts were under scrutiny; however, the withdrawal of W.A. as a claimant State from 1968-69 creates a new position. The following table shows Tasmanian receipts:

**Special Grant (Section 96)—Receipts by Tasmania
(\$'000)**

| Year | Advance Grant | Adjustment Assessed (a) | Adjustment Applied (b) | Actual Receipt (c) |
|------------|---------------|-------------------------|------------------------|--------------------|
| 1956-57 .. | 7,314 | — 28 | — 314 | 7,000 |
| 1957-58 .. | 8,932 | + 1,606 | — 1,632 | 7,300 |
| 1958-59 .. | 8,828 | + 1,818 | — 28 | 8,800 |
| 1959-60 .. | 5,194 | + 1,950 | + 1,606 | 6,800 |
| 1960-61 .. | 6,800 | + 282 | + 1,818 | 8,618 |
| 1961-62 .. | 8,200 | + 556 | + 1,950 | 10,150 |
| 1962-63 .. | 9,800 | + 982 | + 282 | 10,082 |
| 1963-64 .. | 10,200 | + 1,332 | + 556 | 10,756 |
| 1964-65 .. | 13,618 | + 1,166 | + 982 | 14,600 |
| 1965-66 .. | 16,400 | .. | + 1,332 | 17,732 |
| 1966-67 .. | 19,500 | .. | + 1,166 | 20,666 |

(a) Assessment is shown against the year for which accounts have been examined by the Grants Commission, although its effect does not become apparent until two years later.

(b) The two-year delay in application is due to the Grants Commission's obligation to analyse the accounts of claimant and non-claimant States before announcing the adjustments.

(c) Advance grant plus or minus the adjustment applied.

Since 1949-50, the Special Grant has been in two parts. One part is in the nature of an advance grant to meet the estimated financial needs of the State during the current financial year. The other part is an adjustment (positive

or negative), the magnitude of which will depend on whether the advance grant made two years earlier proved greater or less than the amount of financial assistance deemed justified by the Grants Commission. The Special Grant for 1966-67 was \$19,500,000 subject to a positive adjustment of \$1,166,000 on 1964-65 accounts.

The positive adjustment applied in 1966-67 meant that the Grants Commission considered its 1964-65 advance grant too low in the light of its critical examination, not only of the 1964-65 accounts of Tasmania, but also those of the standard States (N.S.W. and Victoria). The accounting principles followed by the Grants Commission are necessarily complicated and can be examined in the Annual Reports of that authority. It is sufficient to say that the existence of the Special Grant has exercised considerable influence on the financial policy of successive Tasmanian Governments. Two principles employed by the Grants Commission will serve to illustrate the nature of this influence:

- (1) if State taxation in a claimant State is below average rates and average exemption scales in the standard States, an unfavourable adjustment will result;
- (2) if State social service expenditure in a claimant State is above comparable per-capita expenditure in the standard States (after allowing for certain difficulties encountered in the claimant State), an unfavourable adjustment will result.

Claimant States must endeavour to raise revenue from taxation at least at the rates and exemption scales adopted by the standard States and must not exceed the per capita expenditure of the standard States in certain fields. Departure from these standards can result in adverse Grant adjustments.

The treatment of Special Grant adjustments in Tasmanian accounts is as follows:

- (1) if a favourable adjustment is made, an equal amount is paid into a suspense account (Accumulated Revenue Account) and the Consolidated Revenue Fund records only the advance grant;
- (2) if an unfavourable adjustment is made, an equal amount is transferred from the suspense account (Accumulated Revenue Account) to the Consolidated Revenue Fund. Thus the Consolidated Revenue Fund again shows as a receipt the amount of the advance grant and not, as might be expected, the advance grant *less* the unfavourable adjustment.

In effect, the State Treasury carries forward in the Accumulated Revenue Account unadjusted budget surpluses and deficits until the Grants Commission announces a favourable or unfavourable adjustment; action can then be taken to charge the net adjusted deficit against the Loan Fund.

Payments Under the Financial Agreement (1927)

Under the Financial Agreement which was entered into by the Commonwealth and the States in 1927, the Commonwealth contributes towards interest and sinking fund payments in respect of States' debts existing at 30 June 1927, and towards sinking fund payments in respect of States' debts incurred after that date for purposes other than the funding of revenue deficits.

The Commonwealth contribution towards payment of interest on the Tasmanian State debt is a constant annual sum of \$533,718 and will be continued until 1985.

The sinking fund contributions made by the Commonwealth under the Agreement in respect of States' debts vary according to the date and nature of the borrowings. On States' debts existing at 30 June 1927 the Common-

wealth is making sinking fund contributions at the rate of 0.125 per cent per annum until 1985 and in respect of cash loans raised for the States since that date, the Commonwealth makes sinking fund payments for 53 years at the rate of 0.25 per cent per annum. Each State is obliged to make sinking fund payments for corresponding periods at the rate of 0.25 per cent per annum of its debt, regardless of the date on which the debt was incurred. The only exception is in relation to debt incurred for the purpose of funding revenue deficits. In these instances, the Commonwealth makes no sinking fund contributions and the States are obliged to make contributions to the sinking fund of not less than four per cent per annum. However, in respect of Treasury Bills issued to cover State revenue deficits accruing between July 1927 and June 1935, special arrangements were made under which the Commonwealth contributes 0.25 per cent per annum until June 1983, on the amount outstanding.

Recent Commonwealth sinking fund contributions in respect of the Tasmanian public debt are as follows: 1956-57, \$593,684; 1957-58, \$654,010; 1958-59, \$699,718; 1959-60, \$776,022; 1960-61, \$828,754; 1961-62, \$896,130; 1962-63, \$971,608; 1963-64, \$1,061,736; 1964-65, \$1,129,472; 1965-66, \$1,211,657; 1966-67, \$1,293,414.

The acceptance of some Commonwealth liability for interest and sinking fund payments on States' debts was only one part of a more extensive agreement setting up an Australian Loan Council and a National Debt Sinking Fund. The raising of loan money for the States under the Agreement is described later in this chapter.

Commonwealth Aid for Roads

The Federal *Main Roads Development Act* 1923 provided for annual Commonwealth contributions to the States, the basis of distribution being a formula weighted 40 per cent according to State area and 60 per cent according to State population. This basis was explicitly expressed in the *Federal Aid Roads Act* 1926 and continued to operate until 1959-60.

A new formula for distribution was embodied in the *Commonwealth Aid Roads Act* 1959 when the Commonwealth undertook to provide a total sum of \$500,000,000 over a five year period. Of this amount, \$440,000,000 represented basic grants, and the remaining sum of up to \$60,000,000 was subject to certain annual limits, payable to the States on the basis of \$1 for each \$1 allocated by the State Governments from their own resources for expenditure on roads over and above the amounts allocated by them for roads expenditure in 1958-59.

The amounts being made available by the Commonwealth were distributed between the States in each year in the proportion of *five per cent of the total* for Tasmania, and the balance shared between the other five States on the basis of one third according to Census population, one third according to area and one third according to vehicles registered at 31 December preceding the year concerned. It will be observed that Tasmania, with less than one per cent of the area of the Commonwealth, was specifically exempted from the operation of the formula applied to the other States.

The *Commonwealth Aid Road Act* 1964 contained provision for a second five-year plan but the total distribution over this period was raised to an amount of \$750,000,000.

Details of Tasmanian receipts of Commonwealth contributions in respect of road expenditure are shown in the following table:

Commonwealth Aid for Roads—Receipts by Tasmania
(\$'000)

| Year | Amount | Year | Amount | Year | Amount |
|---------|--------|-------|---------|------|-----------|
| 1949-50 | .. | 876 | 1955-56 | .. | 2,652 |
| 1950-51 | .. | 1,356 | 1956-57 | .. | 3,126 |
| 1951-52 | .. | 1,466 | 1957-58 | .. | 3,466 |
| 1952-53 | .. | 1,510 | 1958-59 | .. | 3,624 |
| 1953-54 | .. | 1,646 | 1959-60 | .. | (a) 4,366 |
| 1954-55 | .. | 2,334 | 1960-61 | .. | 4,600 |

(a) Payment under the *Commonwealth Aid Roads Act* was \$4,200,000 and the balance represents a final adjustment of Commonwealth commitments under previous legislation.

Summary of Commonwealth Payments

In the previous sections, the main forms of Commonwealth assistance have been described; the following table shows the total payments to Tasmania from the Commonwealth Consolidated Revenue Fund:

Commonwealth Consolidated Revenue Fund—Payments To or For The State of Tasmania
(\$'000)

| Item | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Financial Assistance Grants | 29,298 | 32,131 | 34,773 |
| Special Grants (Section 96) | 14,600 | 17,732 | 20,666 |
| Financial Agreement Payments— | | | |
| Interest on State Debts | 534 | 534 | 534 |
| Sinking Fund on State Debts | 1,129 | 1,212 | 1,293 |
| Grant to University (Capital and Maintenance) .. | 1,342 | 1,171 | 1,422 |
| Farming Extension Services | 74 | 74 | 158 |
| Commonwealth Aid for Roads | 6,500 | 7,000 | 7,500 |
| Tuberculosis Hospitals—Maintenance Grant .. | 362 | 338 | 337 |
| Tuberculosis Hospitals—Capital Grant .. | 6 | 12 | .. |
| Science Laboratories (Schools) | 332 | 331 | 331 |
| Technical Training | 334 | 334 | 334 |
| Mental Health Institutions | 198 | 529 | 823 |
| Gordon River Road | 1,094 | 1,840 | 1,596 |
| National Disaster Payments | .. | .. | 2,500 |
| Colleges of Advanced Education | .. | .. | 59 |
| Research Grants | .. | 77 | 63 |
| Miscellaneous | 24 | 42 | 82 |
| Total (a) | 55,828 | 63,357 | 72,471 |

(a) This total cannot be identified *as such* in State accounts since part is taken into Consolidated Revenue, part into Loan Fund, and the balance into Trust and Special Funds.

Uniform Income Taxation

In December 1955, the Victorian Government took out a writ in the High Court challenging the validity of the uniform tax legislation, the Commonwealth having been the sole collector of income tax since World War II. In particular, Victoria disputed: (i) the power of the Commonwealth to make tax reimbursement grants conditional upon the States' not levying income tax; (ii) the Commonwealth's power to provide an absolute priority for payment of Commonwealth income tax over income taxes levied by the States. In November 1956, the New South Wales Government intervened to support Victoria's challenge.

In August 1957, the High Court ruled: (i) unanimously, that the condition attaching to the tax reimbursement grants, that the State should not levy income tax, was valid; (ii) by four to three, that the prohibition against a

taxpayer paying State income tax until Commonwealth income tax was paid, was invalid. This meant that any State wishing to levy income tax would be obliged to negotiate a special agreement with the Commonwealth; to tax on incomes without such agreement would place the State's tax reimbursement grant in jeopardy. In 1964, the Victorian Premier proposed a *State* income tax which would be collected with existing Commonwealth machinery; the Commonwealth was not willing to provide these facilities. To date, no special arrangement has been negotiated by any State.

Operative from 1 February 1968, new Victorian stamp duty legislation had the effect of taxing virtually all receipts of businesses and professional persons; also wage and salary receipts in excess of \$20 a week; and other receipts of individuals. The tax on wages and salaries, one cent per \$10, was low but appeared to be a tax on income.

The re-action of the Commonwealth Government prior to 1 February was as follows: (i) in its role as employer, it refused to collect the tax on wages and salaries; (ii) the Prime Minister asked the Victorian Premier 'to exempt from receipts duty wages and salaries and comparable payments to individuals such as superannuation, pensions or retiring allowances'. The reason for this request was stated: 'There is no doubt in our minds that, in this respect, the new tax will operate to multiply taxes on income. On this ground we must regard the tax in its present form as being inconsistent with the principle of uniform income tax and the conditions under which the Commonwealth continues to provide general revenue assistance to the States'.

Despite these indications of the Commonwealth's attitude, the Victorian Government took no action to exempt wages, salaries and comparable payments, and the new legislation took effect from 1 February 1968.

In June 1968, at the Premiers' Conference, the Prime Minister repeated the Commonwealth's objection to the Victorian tax on income and warned that if it were still being imposed in 1970, the year of review for the Financial Assistance Agreement, it would be taken into account in fixing the Commonwealth grant to Victoria. He also indicated that the Commonwealth would be forced to take action if the level of the Victorian tax were raised above its present level in the period 1968-1970.

Financial Agreement Between Commonwealth and States

The original Financial Agreement was made on 12 December 1927, but Tasmania did not become a party to it until 1 July 1928. The basic intention of the agreement was a co-ordinated approach to the loan market, the establishment of sound sinking fund arrangements and the sharing of State debt charges by the Commonwealth. The main provisions are summarised as follows:

- (1) The Commonwealth assumed certain liabilities in respect of the States' debts (see previous section on interest and sinking fund payments made by the Commonwealth in respect of Tasmanian State Debt—'Payments under the Financial Agreement').
- (2) The Australian Loan Council was set up to co-ordinate the public borrowings of the Commonwealth and the States. It consists of the Prime Minister (or his nominee) as Chairman, and the State Premiers (or their nominees). Each financial year, the Commonwealth and the States submit, to the Loan Council, programmes setting out the amounts they desire to raise by loan during the next year. Revenue deficits to be funded are included in the borrowing programmes but borrowing by the Commonwealth for defence purposes is excluded from the terms of the agreement.

If the Loan Council decides that the total amount of the loan programmes for the year cannot be borrowed at reasonable rates and conditions, it then decides the amount which shall be borrowed and may, by unanimous decision, allocate that amount between the Commonwealth and the States. In default of a unanimous decision, the Commonwealth is entitled to one-fifth of the total amount to be borrowed and each State to a proportion of the remainder equal to the ratio of its net loan expenditure in the preceding five years to the net loan expenditure of all States during the same period.

Subject to the decisions of the Loan Council, the Commonwealth arranges all borrowings, including those for conversions, renewals and redemptions. However, the Commonwealth or a State may borrow for 'temporary purposes' by way of overdraft or fixed deposit, subject to limits fixed by the Loan Council. In addition, the Commonwealth may borrow within the Commonwealth, or a State within its own territory, from authorities, bodies, institutions, or from the public by counter sales of securities, subject to Loan Council approval. Commonwealth securities are issued for money borrowed in this way and amounts so borrowed are treated as part of the borrowing programme for the year.

- (3) The Agreement involved setting up a National Debt Commission to administer one consolidated sinking fund in respect of the debt of the Commonwealth and the States. Sinking fund moneys are used to redeem unconverted securities at maturity, and to re-purchase securities on the stock market.
- (4) It was realised at the inception of the Loan Council that, in the interests of co-ordinated borrowing, the Council should be advised of borrowings of large amounts by semi-government authorities (such loan raisings do not form part of State or Commonwealth debt and therefore are not within the scope of the original agreement). A set of rules evolved in 1936 is regarded as the 'Gentlemen's Agreement' and makes provision for the submission to the Council of annual loan programmes in respect of semi-government authorities (in conjunction with the loan programmes of the Governments concerned) and for the fixing of the terms of individual semi-government loans coming within the scope of the annual programme. (For 1967-68, borrowings approved by the Loan Council for Tasmanian semi-government and local government authorities amounted to \$11,720,000.)

It should be emphasised that the Australian Loan Council does not itself raise money for Tasmanian semi-government and local government authorities; its concern is to assess the total impact of government borrowing for the year and then to fix ceilings for semi-government and local government authorities in the interests of a co-ordinated programme.

Money made available from the Commonwealth Loan Fund to the State of Tasmania is recorded in two State funds, namely:

- (i) the Loan Fund, to which are paid the receipts of new cash borrowings but not allocations under the Commonwealth and State Housing Agreement;
- (ii) the Trust and Special Funds, to which are paid the allocations for housing made under the Agreement.

The following table shows Loan Council borrowing programmes undertaken on behalf of the State of Tasmania:

Tasmania—New Cash Borrowings Authorised by Australian Loan Council (a)
(\$'000)

| Year | Amount | Year | Amount | Year | Amount |
|---------|--------|---------|--------|---------|--------|
| 1950-51 | 29,382 | 1956-57 | 22,800 | 1962-63 | 30,708 |
| 1951-52 | 30,200 | 1957-58 | 24,200 | 1963-64 | 32,020 |
| 1952-53 | 26,124 | 1958-59 | 25,180 | 1964-65 | 34,136 |
| 1953-54 | 28,900 | 1959-60 | 27,080 | 1965-66 | 34,834 |
| 1954-55 | 25,920 | 1960-61 | 28,388 | 1966-67 | 37,580 |
| 1955-56 | 26,800 | 1961-62 | 28,996 | 1967-68 | 40,610 |

(a) For State works programmes; amounts credited to State Loan Fund.

The above table does not include allocations under the Commonwealth and State Housing Agreements, such borrowings being also part of the Loan Council's programme. The following table shows allocations to Tasmania for housing purposes:

Tasmania—Allocations Under Commonwealth and State Housing Agreements (a)
(\$'000)

| Year | Amount | Year | Amount | Year | Amount |
|---------|--------|---------|--------|---------|--------|
| 1950-51 | 200 | 1956-57 | 4,000 | 1962-63 | 5,200 |
| 1951-52 | (b) | 1957-58 | 4,000 | 1963-64 | 6,000 |
| 1952-53 | (b) | 1958-59 | 4,400 | 1964-65 | 6,400 |
| 1953-54 | (b) | 1959-60 | 3,900 | 1965-66 | 7,448 |
| 1954-55 | (b) | 1960-61 | 4,000 | 1966-67 | 7,500 |
| 1955-56 | (b) | 1961-62 | 5,856 | 1967-68 | 6,700 |

(a) For housing; credited to State Trust Funds.

(b) Tasmania withdrew from the Commonwealth and State Housing Agreement in 1950-51 and repaid all principal owing out of loan money allocated by the Loan Council to the State in that year. Tasmania's housing requirements in this period were financed from the State Loan Fund.

Tasmanian Public Account

The State Public Account includes the Consolidated Revenue Fund, the Trust and Special Funds, and the Loan Fund. Ordinary revenues from taxation and other sources are paid into the Consolidated Revenue Fund from which the main expenditures are for public debt charges, education, development of State resources, health and hospitals, general administration, subsidies to State business undertakings, law and order, and certain welfare activities. The Trust and Special Funds cover special transactions outside the ordinary operations of departmental expenditure, such as funds from the Commonwealth for specific purposes and moneys held for expenditure by the State at some future time. The Loan Fund receives its funds from public borrowings and the main expenditure is on State public works and on advances to State business undertakings.

A summary of transactions on the Tasmanian Public Account for a three-year period is given in the following table:

Public Account—Summary of Transactions
(\$'000)

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| Cash and Investments, Beginning of Year | 4,593 | 4,390 | 2,490 |
| Receipts— | | | |
| Consolidated Revenue Fund | 74,846 | 83,564 | 92,676 |
| Special Grant Adjustment | 982 | 1,332 | 1,166 |
| Loan Raisings | 34,172 | 34,879 | 37,624 |
| Other Payments to Loan Fund | 2,458 | 2,837 | 3,526 |
| Net Increase, Trust and Special Funds .. | — 387 | 463 | 4,470 |
| Capital Appreciation on Bond Redemption | 6 | .. | .. |
| Total | 112,077 | 123,076 | 139,461 |
| Expenditure— | | | |
| Consolidated Revenue Fund | 76,465 | 85,585 | 93,248 |
| Loan Fund—Public Works and Purposes | 35,780 | 39,346 | 39,811 |
| Discount | 36 | 45 | 44 |
| Total | 112,281 | 124,977 | 133,103 |
| Cash and Investments, End of Year .. | 4,390 | 2,490 | 8,848 |

The State Public Account is a complete record of the government's operation of three specific funds, i.e. Consolidated Revenue, the Trust and Special Funds, and the Loan Fund. It is by no means a complete record of government activity, since statutory authorities and semi-government authorities carry on financial operations which are not recorded in the State Public Account. Examples of such authorities are the Hydro-Electric Commission, the Transport Commission, the Agricultural Bank, etc. In a later section of this chapter, there appears the heading 'Exclusions from Consolidated Revenue' and this lists the relationship between the finances of the principal authorities and the Consolidated Revenue Fund; the general principle is that the gross receipts and gross expenditure of the authorities are excluded from the Consolidated Revenue Fund.

In the following table are shown the balances credited to each fund constituting the Public Account and the form in which the balances are held:

Public Account—Summary of Balances

(\$'000)

| As at 30 June | Balance | | | | | Location | | | |
|---------------------|--|--------------|----------------------------------|-------|--------------------------------|------------------------------------|---|-------|--|
| | Accum- ulated Revenue Account | Loan Fund | Trust and Special Funds | Total | Cash in Treasury or Bank | Advanced to Depart- ments | Govt and Other Securi- ties (a) | Total | |
| 1964.. | Dr 2,168 | 2,609 | 4,152 | 4,593 | 3,132 | 729 | 732 | 4,593 | |
| 1965.. | Dr 2,804 | 3,429 | 3,765 | 4,390 | 3,133 | 747 | 510 | 4,390 | |
| 1966.. | Dr 3,493 | 1,755 | 4,228 | 2,490 | 1,213 | 738 | 538 | 2,490 | |
| 1967.. | Dr 2,593 | 2,743 | 8,698 | 8,848 | 6,413 | 750 | 1,684 | 8,848 | |
| (b) | | | | | | | | | |

(a) Includes fixed deposits.

(b) Balance includes special-purpose Commonwealth grant, private donations, etc. received after fire disaster of 7 February 1967.

In the previous table, the 'Accumulated Revenue Account' is a suspense account recording accumulated surpluses and deficits in the Consolidated Revenue Fund and also the funding of deficits. Details of the account are as follows:

**Accumulated Revenue Account—Summary of Transactions
(\$'000)**

| Year | Opening Balance | Transactions | | | Closing Balance |
|---------|-----------------|---|------------------------------------|-------------------------------------|-----------------|
| | | Budget Result, Consolidated Revenue | Special Grant Adjustment (a) | Deficits Charged to Loan Fund | |
| 1963-64 | Dr 1,700 | — 1,185 | + 556 | + 161 | Dr 2,168 |
| 1964-65 | Dr 2,168 | — 1,618 | + 982 | .. | Dr 2,804 |
| 1965-66 | Dr 2,804 | — 2,021 | + 1,332 | .. | Dr 3,493 |
| 1966-67 | Dr 3,493 | — 572 | + 1,166 | + 306 | Dr 2,593 |

(a) It is Tasmanian Treasury practice to record Special Grant adjustments in the Accumulated Revenue Account and to include, in published Consolidated Revenue receipts, only the advance grant.

In the following section dealing with Consolidated Revenue, Treasury practice has been followed in eliminating Special Grant adjustments from Consolidated Revenue total receipts.

Consolidated Revenue Fund

General

The financial transactions of the State of Tasmania are recorded under (a) Consolidated Revenue, (b) Trust Funds, and (c) Loan Fund.

Payments from Consolidated Revenue are made only on the basis of authority found in: (i) the annual Appropriation Act of the Parliament; (ii) Acts of the Parliament made in previous years and under which certain annual payments are classified as 'reserved by law'; (iii) the *Public Account Act 1957* (as amended in 1962) and the *Audit Act 1918*.

The third category of authority listed above is designed to give the Treasurer and the Government some flexibility in public expenditure since the Appropriation Act cannot be expected to anticipate, to the nearest dollar, the expenses that are likely to be incurred for each and every item. The relevant sections of the amended *Public Account Act* are 5A and 5B which provide that, in relation to Consolidated Revenue, the Treasurer may authorise transfers between votes within certain subdivisions of the appropriation and, on the authority of the Governor, supplement certain appropriations and provide funds to meet expenditure for which no other provision exists. Transfers, as described under 5A, are a matter for the Treasurer but additional expenditure, as described under 5B, needs ratification by Parliament before the close of the following financial year. Regulations 20 and 21 of the second schedule of the *Audit Act* provide for expenditure by the Treasurer to meet emergencies for which no vote exists; the Governor must first authorise such expenditure and the Auditor General investigate the circumstances before payment can be made.

Exclusions from Consolidated Revenue

It should be observed that the Consolidated Revenue Fund does not include the complete revenue and expenditure in respect of all activities undertaken or authorised by the State Government: (i) some moneys are paid into State Trust Funds and some payments are made from such funds, e.g. the Commonwealth Aid Roads Grant is paid into the State Highway Trust Fund;

(ii) the gross receipts and payments of a number of State business undertakings and State authorities are excluded from the Consolidated Revenue Fund, their relation to the fund being as follows:

- (a) In Tasmania, the railways (in common with Government shipping and road transport services) are administered by the Transport Commission and, since 1939-40, only the *net* losses of this authority have been met from the Consolidated Revenue Fund to which is credited the Commission's annual payment of debt charges (interest and sinking fund contributions) on advances made by the Government.
- (b) Omnibus services in Hobart, Launceston and Burnie are operated by the Metropolitan Transport Trust. The *net* annual loss of the authority is a charge against Consolidated Revenue which is credited with annual payment of debt charges made by the Trust on Government advances.
- (c) The gross receipts and expenditure of the Hydro-Electric Commission are excluded from the Consolidated Revenue Fund which is credited with annual payment of debt charges by the Commission. Net profit or loss on the Commission's activities is carried forward in the authority's own suspense account *and has no effect on Consolidated Revenue*.
- (d) Also excluded from the Consolidated Revenue Fund are the gross receipts and payments of: regional water supplies, Government Printing Office, Government Insurance Office, Public Trustee, State housing authorities, Closer Settlement, Rural Credits and other activities of the Agricultural Bank, etc.; in accordance with various Acts, it is usual for the net profits or losses of the previous year to be paid to or from the Consolidated Revenue Fund for the current year. Debt charges on government money loaned to the authorities are paid to Consolidated Revenue.

Consolidated Revenue Fund, Summary

The following table shows the Consolidated Revenue and Expenditure of Tasmania, the surplus or deficit, and the aggregate deficit at the end of each year. It also calls attention to the Special Grant adjustments and shows how these Commonwealth payments modify the original budget result.

**Consolidated Revenue Fund—Surpluses and Deficits
(\$'000)**

| Year | Revenue | | | Expen- diture | Budget Result | | Aggregate Net Deficit at End of Year |
|------------|----------------------|--------------------------------|---------------------|------------------|----------------------|---------------------|--|
| | Before Adjustment | Special Grant Adjustment | After Adjustment | | Before Adjustment | After Adjustment | |
| At 30/6/56 | .. | .. | .. | .. | .. | .. | 9,434 |
| 1956-57 | 37,916 | — | 28 | 37,888 | 39,544 | — 1,628 | — 1,656 |
| 1957-58 | 41,604 | + | 1,606 | 43,210 | 43,228 | — 1,624 | — 18 |
| 1958-59 | 43,702 | + | 1,818 | 45,520 | 45,518 | — 1,816 | + 2 |
| 1959-60 | 48,592 | + | 1,950 | 50,542 | 50,656 | — 2,064 | — 114 |
| 1960-61 | 53,772 | + | 282 | 54,054 | 54,166 | — 394 | — 112 |
| 1961-62 | 60,636 | + | 556 | 61,192 | 61,352 | — 716 | — 160 |
| 1962-63 | 63,036 | + | 982 | 64,018 | 64,020 | — 983 | — 1 |
| 1963-64 | 67,836 | + | 1,332 | 69,167 | 69,020 | — 1,185 | + 147 |
| 1964-65 | 74,846 | + | 1,166 | 76,012 | 76,465 | — 1,618 | — 452 |
| 1965-66 | 83,564 | (a) | | 83,564 | 85,585 | — 2,021 | (a) 13,820 |
| 1966-67 | 92,676 | (b) | | 92,676 | 93,248 | — 572 | (b) 14,392 |

(a) Adjustment will be taken into account in 1967-68.

(b) Adjustment will be taken into account in 1968-69.

Deficit Funding

In the previous table, the original budget result is treated as provisional because the Grant Commission's adjustment is used to amend the original surplus or deficit and also the aggregate deficit. The Tasmanian Government refrains from immediately charging revenue deficits against the Loan Fund since the precise amount of the final deficit is not known until the Commission's adjustment is taken into account two years later. Whilst the aggregate of all deficits at 30 June 1967 was \$14,392,000, the sum of \$11,799,000 has been charged against the loan fund as 'revenue deficits funded'; thus the *unfunded* aggregate deficit is only \$2,593,000 carried as a *debit* balance in the accumulated revenue account.

Consolidated Revenue—Receipts

The principal sources of revenue in this fund, in order of importance, are the grants and other financial assistance received from the Commonwealth Government; debt charges received from semi-government authorities in respect of State advances; and State taxation.

The following table shows Tasmanian Consolidated Revenue receipts for a three-year period:

**Consolidated Revenue Fund—Receipts
(\$'000)**

| Item | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Commonwealth Grants— | | | |
| Financial Agreement | 534 | 534 | 534 |
| Financial Assistance | 29,297 | 32,131 | 34,773 |
| Special | 14,600 | 17,732 | 20,666 |
| Total | 44,431 | 50,396 | 55,973 |
| Debt Charge Recoveries (a)— | | | |
| Interest | 12,752 | 13,854 | 15,479 |
| Sinking Fund | 1,673 | 1,828 | 1,977 |
| Total | 14,425 | 15,683 | 17,456 |
| State Taxation | 10,677 | 11,934 | 13,289 |
| Lands and Forests— | | | |
| Forestry | 1,499 | 1,500 | 1,557 |
| Other Rents, Sales, etc. | 216 | 259 | 279 |
| Total | 1,715 | 1,759 | 1,836 |
| Business Undertakings | 262 | 290 | 246 |
| Departmental Revenue, Fees, Rents, etc. | 3,174 | 3,401 | 3,795 |
| Victorian Lotteries Agreement | 147 | 152 | 141 |
| Commonwealth National Welfare Fund.. | 998 | 1,281 | 1,106 |
| Actual Receipts | 75,828 | 84,896 | 93,842 |
| Transfer, Accumulated Revenue Account(b) | — 982 | — 1,332 | — 1,166 |
| Grand Total.. | 74,846 | 83,564 | 92,676 |

(a) Mainly on advances made to semi-government bodies.

(b) Special Grant adjustments.

The relative importance of the various components of the Consolidated Revenue Fund can be assessed by expressing them on a per capita basis, using the State mean population for the relevant financial year:

**Consolidated Revenue Fund—Receipts Per Head of Population
(\$)**

| Item | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Commonwealth Grants | 121.33 | 136.43 | 149.69 |
| Debt Charge Recoveries | 39.39 | 42.46 | 46.68 |
| State Taxation | 29.16 | 32.31 | 35.54 |
| Lands and Forests | 4.68 | 4.76 | 4.91 |
| Business Undertakings | 0.72 | 0.79 | 0.66 |
| Departmental Revenue, Fees, Rents, etc... | 8.67 | 9.21 | 10.15 |
| Victorian Lotteries Agreement | 0.40 | 0.41 | 0.38 |
| Commonwealth National Welfare Fund | 2.73 | 3.47 | 2.96 |
| Transfer, Accumulated Revenue Account | — 2.68 | — 3.61 | — 3.12 |
| Total | 204.38 | 226.21 | 247.85 |

Debt Charge Recoveries

After Commonwealth Grants, debt charge recoveries is the next important item in Consolidated Revenue. The following table shows details of the payments of interest and sinking fund made by various authorities on advances which have been made to them by the State Government; since the advances have been made primarily from State loan borrowings, the Government has accepted an annual liability for debt charges (in respect of these authorities) approximately equal to the recoveries shown.

**Debt Charge Recoveries—Consolidated Revenue Fund
(\$'000)**

| Source of Recovery | Interest | | | Sinking Fund Contributions | | |
|---|----------|---------|---------|----------------------------|---------|---------|
| | 1964-65 | 1965-66 | 1966-67 | 1964-65 | 1965-66 | 1966-67 |
| Transport Commission | 908 | 953 | 1,003 | 143 | 150 | 159 |
| Metropolitan Transport Trust | 119 | 127 | 131 | 19 | 19 | 19 |
| Hydro-Electric Commission | 9,504 | 10,436 | 11,552 | 1,307 | 1,437 | 1,556 |
| Regional Water Supplies | 564 | 639 | 734 | 73 | 85 | 92 |
| Government Printing Office | 20 | 19 | 22 | 3 | 3 | 3 |
| King Island Abattoirs | 16 | 17 | 17 | 3 | 3 | 3 |
| Tasmanian Grain Elevators | 38 | 42 | 45 | 8 | 8 | 9 |
| Aluminium Industry Agreement | 130 | 131 | 145 | .. | .. | .. |
| Closer Settlement | 63 | 69 | 81 | .. | .. | .. |
| Returned Soldiers Settlement | 66 | 65 | 61 | .. | .. | .. |
| Homes Act Advances | 843 | 835 | 829 | 118 | 122 | 135 |
| Homes Construction (Housing Department) | 145 | 173 | 185 | .. | .. | .. |
| State Advances, Primary Producers | 70 | 57 | 61 | .. | .. | .. |
| Loans to Local Bodies | 56 | 63 | 77 | .. | .. | .. |
| Tourist Accommodation Loans | 116 | 131 | 137 | .. | .. | .. |
| Iron Ore (Savage River) Agreement Act .. .. | .. .. | .. .. | 46 | .. .. | .. .. | .. .. |
| Forestry Commission | 95 | 98 | 96 | .. .. | .. .. | .. .. |
| Total | 12,752 | 13,854 | 15,479 | 1,673 | 1,828 | 1,977 |

State Taxation

In Tasmania, the chief State taxes, in order of importance, are Motor Tax; Stamp Duties (on cheques, legal documents, etc.); Probate and Succession Duties; and Land Tax.

The following table gives a summary of State taxation taken into Consolidated Revenue for a three-year period:

**State Taxation Collections Paid Into Consolidated Revenue
(\$'000)**

| Tax or Licence | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| Probate and Succession Duties | 2,006 | 2,005 | 2,149 |
| Stamp Duties (excluding Bookmakers' Tickets) | 2,629 | 3,078 | 3,466 |
| Land Tax | 1,678 | 2,029 | 2,108 |
| Liquor Tax and Licences | 630 | 739 | 887 |
| Racing Taxes (including Bookmakers' Tickets) | 557 | 633 | 686 |
| Motor Taxes | 3,153 | 3,425 | 3,961 |
| Entertainment Tax | (a) | (a) | (a) |
| Other Licences | 24 | 26 | 31 |
| Total (b) | 10,677 | 11,934 | 13,289 |

(a) Levying of this tax ceased on 28 September 1963. Re-introduced in 1967-68.

(b) Excluded are the following amounts received from the Victorian Government under the Victorian Lotteries Agreement; 1964-65, \$146,500; 1965-66, \$152,338; 1966-67, \$140,995.

Not all State taxation is paid into the Consolidated Revenue Fund, some portion of total Motor Taxes and total Racing Taxes being reserved for special purposes as shown in the following table:

**State Taxation Collections Paid to Special Funds
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| Motor Taxation— | | | |
| Retained by Transport Commission .. | 784 | 812 | 899 |
| Racing Taxation— | | | |
| Paid to Racing Clubs and Racing Commission | 458 | 408 | 442 |
| Total | 1,241 | 1,221 | 1,341 |

The following summarises total taxation collected by the State:

**Total State Taxation Collections (a)
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------------|---------|---------|---------|
| Paid into Consolidated Revenue | 10,677 | 11,934 | 13,289 |
| Paid into Special Funds | 1,241 | 1,221 | 1,341 |
| Total | 11,918 | 13,154 | 14,630 |

(a) Taxation is described in fuller detail in a subsequent section, 'Taxation in Tasmania'.

Consolidated Revenue Fund—Expenditure

In the following table, a summary is given of Consolidated Revenue Fund expenditure classified according to function. Group totals only are shown and these are arranged in descending order of magnitude:

Consolidated Revenue Fund—Summary of Expenditure

| Classification by Function | Amount (\$'000) | | | Per Head of Population (\$) | | |
|---|-----------------|---------|---------|-----------------------------|---------|---------|
| | 1964-65 | 1965-66 | 1966-67 | 1964-65 | 1965-66 | 1966-67 |
| Public Debt Charges .. . | 24,081 | 26,307 | 28,226 | 65.76 | 71.22 | 75.49 |
| Education, Science, Art and Research .. . | 17,734 | 18,967 | 21,220 | 48.43 | 51.35 | 56.75 |
| Development and Maintenance of State Resources .. . | 9,566 | 12,460 | 12,716 | 26.12 | 33.73 | 34.01 |
| Promotion of Public Health and Recreation .. . | 8,711 | 10,027 | 11,032 | 23.79 | 27.14 | 29.50 |
| Legislature and General Administration .. . | 5,802 | 6,526 | 7,139 | 15.84 | 17.67 | 19.09 |
| Maintenance of Law, Order and Public Safety .. . | 4,296 | 4,470 | 5,153 | 11.73 | 12.10 | 13.78 |
| Business Undertakings .. . | 3,984 | 4,693 | 4,675 | 10.88 | 12.70 | 12.50 |
| Welfare .. . | 1,952 | 1,783 | 2,728 | 5.33 | 4.83 | 7.30 |
| Regulation of Trade and Industry | 338 | 351 | 360 | 0.92 | 0.95 | 0.96 |
| Total .. . | 76,465 | 85,585 | 93,248 | 208.80 | 231.69 | 249.38 |

The principal items of expenditure on which the previous statistical classification is based are shown below:

Consolidated Revenue Fund—Expenditure
(\$'000)

| Classification by Function | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Public Debt Charges— | | | |
| Interest .. . | 20,525 | 22,360 | 24,069 |
| National Debt Sinking Fund .. . | 3,394 | 3,649 | 3,904 |
| State Sinking Fund .. . | 7 | 4 | 1 |
| Other (Loan Management Charges, etc.) .. . | 155 | 294 | 251 |
| Total .. . | 24,081 | 26,307 | 28,226 |
| Education, Science, Art and Research— | | | |
| Primary, Secondary and Technical Education .. . | 15,622 | 16,854 | 18,867 |
| University .. . | 1,360 | 1,332 | 1,438 |
| Other Education (including Adult Education) .. . | 145 | 134 | 147 |
| Libraries, Museums, Art Galleries, Orchestras, etc. .. . | 606 | 647 | 768 |
| Total .. . | 17,734 | 18,967 | 21,220 |
| Development and Maintenance of State Resources— | | | |
| Land Settlement and Survey .. . | 1,134 | 2,714 | 2,846 |
| Agricultural and Pastoral .. . | 2,618 | 3,346 | 2,709 |
| Mining .. . | 444 | 467 | 524 |
| Forestry .. . | 1,211 | 1,525 | 1,528 |
| Fisheries and Game .. . | 183 | 110 | 71 |
| Roads and Bridges .. . | 3,201 | 3,446 | 4,023 |
| Shipping Services .. . | 67 | 73 | 86 |
| Tourist Activities .. . | 560 | 602 | 680 |
| Other .. . | 149 | 178 | 248 |
| Total .. . | 9,566 | 12,460 | 12,716 |
| Promotion of Public Health and Recreation— | | | |
| Mental Hospitals .. . | 1,603 | 1,690 | 1,904 |
| Other Hospitals .. . | 5,282 | 5,854 | 6,396 |
| Baby Health Centres .. . | 198 | 204 | 227 |
| Medical Inspection, School Children .. . | 239 | 347 | 445 |
| Public Health Administration and Services .. . | 1,194 | 1,759 | 1,877 |
| Gardens, Parks, Sporting Clubs, etc. .. . | 196 | 174 | 183 |
| Total .. . | 8,711 | 10,027 | 11,032 |

Consolidated Revenue Fund—Expenditure—continued
 (\$'000)

| Classification by Function | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|-----------|
| Legislature and General Administration— | | | |
| Legislature— | | | |
| Governor | 115 | 127 | 126 |
| Parliament and Ministers | 575 | 601 | 619 |
| Electoral | 60 | 57 | 70 |
| Financial Administration— | | | |
| Treasury | 452 | 508 | 329 |
| Pensions and Superannuation | 936 | 1,070 | 982 |
| Auditor General | 249 | 267 | 300 |
| Administration and Services, n.e.i. | 3,416 | 3,895 | 4,712 |
| Total | 5,802 | 6,526 | 7,139 |
| Maintenance of Law, Order and Public Safety— | | | |
| Administration of Justice, Courts, etc. | 796 | 856 | 969 |
| Police | 2,675 | 2,727 | 3,179 |
| Prisons | 539 | 588 | 683 |
| Reformatories | 105 | 108 | 124 |
| Public Safety (Fire Brigades, etc.) | 182 | 192 | 198 |
| Total | 4,296 | 4,470 | 5,153 |
| Business Undertakings— | | | |
| Transport Commission—Losses, Subsidies | 2,490 | 3,156 | 2,860 |
| Metropolitan Transport Trust—Subsidy | 760 | 760 | 975 |
| Water Supplies—Subsidy and Administration | 560 | 617 | 654 |
| Electricity—Subsidies | 6 | 11 | 18 |
| Housing—Subsidies and Losses | 46 | 49 | 47 |
| Other | 122 | 100 | 121 |
| Total | 3,984 | 4,693 | 4,675 |
| Welfare— | | | |
| Relief of Destitute, Aged and Incapacitated | 1,550 | 1,376 | (a) 2,253 |
| Child Welfare (Children of the State, etc.) | 172 | 158 | 184 |
| Other Services and Administration | 230 | 249 | 292 |
| Total | 1,952 | 1,783 | 2,728 |
| Regulation of Trade and Industry— | | | |
| Factories, Shops and Labour Legislation, etc. | 338 | 351 | 360 |
| Grand Total | 76,465 | 85,585 | 93,248 |

(a) Increase mainly due to fire disaster of 7 February 1967.

Source of Data

The classification of expenditure by function is derived from an analysis of published accounts. In some cases, the functional analysis simply repeats a total specified in the Treasurer's Financial Statement, (e.g. Auditor General's Department, Mines Department, Police Department, etc.). In other cases, individual minor items have been classified to function and then combined to produce the sub-group totals.

Public Debt Charges

This is the largest item of expenditure but a high proportion is recovered from semi-government authorities. The effect of these recoveries is illustrated in the following table:

**Net Burden on Consolidated Revenue—Public Debt Charges
(\$'000)**

| Particulars | Interest | | | Sinking Fund Contribution | | |
|--|-----------|-----------|-----------|---------------------------|-----------|-----------|
| | 1964-65 | 1965-66 | 1966-67 | 1964-65 | 1965-66 | 1966-67 |
| Public Debt Charges— Expenditure, Consolidated Revenue .. | (a)20,680 | (a)22,654 | (a)24,320 | (b) 3,394 | (b) 3,649 | (b) 3,904 |
| Recovered from Semi-Government Bodies, etc. | 12,752 | 13,854 | 15,479 | 1,673 | 1,828 | 1,977 |
| Net Burden on Consolidated Revenue (c) | 7,928 | 8,799 | 8,841 | 1,721 | 1,821 | 1,927 |

(a) Includes loan management charges.

(b) Contribution payable under the Financial Agreement to the National Debt Sinking Fund.

(c) In respect of non-revenue producing assets such as schools, roads, etc.

Administration and Services, n.e.i.

The salaries and expenses of departments not associated with any listed function have been included in the item 'Administration and Services, n.e.i.' (e.g. Public Service Commissioner's Department, Public Works Department, Premier's and Chief Secretary's Department, etc.). Also included in this item are the upkeep of public buildings and other expenditure which cannot be allocated to a listed function.

Business Undertakings

Unlike the Consolidated Revenue Funds of some Australian States, the Tasmanian Fund excludes the gross receipts and expenditure of State business undertakings such as railways, bus services, water supply, etc. The principal charges in 1966-67 under this item were incurred in respect of the Transport Commission and consisted of: (i) re-imbursement of net loss 1965-66, (\$751,688) and (ii) proceeds of State Land Tax paid to Commission (\$2,108,295). Another major item was a contribution of \$975,000 to the Metropolitan Transport Trust which experienced a net trading loss of \$884,322 in 1966-67.

Roads and Bridges

The chief expenditure under this item in 1966-67 was a transfer of \$3,961,409 to the State Highway Trust Fund, such sum representing revenue received from motor tax, vehicle registrations, drivers' licences and public vehicle fees and charges, less \$899,025 retained by the Transport Commission to meet the cost of vehicle registration and traffic control.

State Trust and Special Funds

Revenues of the State are payable to Consolidated Revenue with the exception of certain revenues which have been set aside by various Acts of Parliament for specific purposes and which are payable into special funds or accounts at the State Treasury. The volume of these transactions is high, \$98,960,373 being received in 1966-67, \$94,490,309 being expended and the balance in the funds changing from \$4,228,307 (1 July 1966) to \$8,698,370 (30 June 1967).

It should be noted that many accounts in the Trust and Special Funds indicate Treasury transactions which are merely supplementary to those recorded under Consolidated Revenue and Loan Funds; examples are given:

State Trust and Special Funds—Selected Accounts, 1966-67
 (\$'000)

| Account | Receipts | Expenditure |
|---|----------|-------------|
| Commonwealth Tax Deductions Suspense Account (a) .. | 5,004.9 | 5,004.9 |
| Pay-roll Tax Suspense (b) | 907.0 | 907.0 |
| Hydro-Electric Commission Suspense Account (c) .. | 867.4 | 766.8 |

- (a) Wages and salaries included under Consolidated Revenue and Loan Fund expenditure are shown at gross value; however, the deductions applicable to wage and salary earners on Government pay-rolls are passed, via this account, to the Commonwealth.
- (b) Expenditure under Consolidated Revenue and Loan Fund includes pay-roll tax; however, pay-roll tax applicable to Government pay-rolls is passed, via this account, to the Commonwealth.
- (c) The Treasury acts as agent for meeting overseas liabilities incurred by the Hydro-Electric Commission; these liabilities, being mainly incurred in the acquisition of plant and equipment, are largely accounted for in Loan Fund expenditure.

Many accounts are concerned with Government activities financed by the Commonwealth, the State acting as trustee or agent in the transactions; examples are given:

State Trust and Special Funds—Selected Accounts, 1966-67
 (\$'000)

| Account | Receipts | Expenditure |
|---|----------|-------------|
| Tasmanian University (Commonwealth Grants) Account (a) .. | 1,000.0 | 1,000.0 |
| Commonwealth Free Milk Scheme Account (b) | 451.3 | 446.3 |
| Home Builders Fund (c) | 3,390.8 | 3,361.8 |

- (a) Treasury passes Commonwealth grants to University of Tasmania.
- (b) Education Department administers free milk scheme for school children on behalf of Commonwealth.
- (c) Agricultural Bank administers loans to home builders, the source of funds being the Commonwealth.

In the case of some accounts, there is provision for crediting the Trust and Special Funds with contributions from Consolidated Revenue, an important example being the State Highways Trust Fund:

State Trust and Special Funds—State Highways Trust Fund, 1966-67
 (\$'000)

| Item | Receipts | Expenditure |
|--|----------|-------------|
| Commonwealth Contribution | 7,500.0 | .. |
| Grant from Consolidated Revenue | 3,961.4 | |
| Roads Expenditure | 245.7 | 11,745.6 |
| Self-Balancing Entries (Contra) | 2,209.2 | 2,209.2 |
| Fund Entries | 13,916.3 | 13,954.8 |

The Forestry Fund Account records transactions under legislation requiring revenue from forestry to be paid to Consolidated Revenue, and for Consolidated Revenue to expend an equal amount on forestry in the following year:

State Trust and Special Funds—Forestry Fund Account, 1966-67
(\$'000)

| Item | Receipts | Expenditure |
|---|----------|-------------|
| Grant from Consolidated Revenue (a) | 1,500.5 | .. |
| Expenditure on Forestry | .. | 1,528.1 |
| Self-Balancing Entries (Contra) | 482.8 | 482.8 |
| Fund Entries | 1,983.3 | 2,010.9 |

(a) Consolidated Revenue recorded Forestry receipts of \$1,500,478 in 1965-66; this sum therefore became the 1966-67 contribution from Consolidated Revenue.

Some of the funds held in trust are not owned by the State Government, examples being: Prisoners' Earnings Deposit Account; Tasmanian Sanitorium Donations Account; St John's Park Inmates Trust Account. Other funds are held on behalf of semi-government authorities, such as the Hydro-Electric Commission, the Agricultural Bank, the Transport Commission, etc.

Following the fire emergency of February 1967, special State Trust Fund Accounts were established to record the receipt and expenditure of money for fire relief purposes. The next table gives details of contributions to and expenditure from each account during 1967-68:

State Trust and Special Funds—Fire Relief Accounts, 1967-68
(\$'000)

| Name of Account | Receipts | Expenditure |
|---|----------|-------------|
| A/c No. 1—The Governor's Bush Fire Relief Fund .. | 172 | 1,324 |
| A/c No. 2—The Fire Relief Account 1967 .. | 3 | 367 |
| Fire Relief—Motor Vehicle Losses Account .. | 1 | 42 |
| Non-Profit Organisations Account .. | 2 | 23 |
| Emergency Expenditure Account .. | 202 | 219 |
| Primary Producers Losses Account .. | 2,350 | 2,069 |
| Primary Industry Working Account .. | 2,274 | 2,270 |
| Business Re-Financing Account .. | 450 | 396 |
| Home Financing Account .. | 1,550 | 1,416 |
| Home Financing Working Account .. | 1,434 | 1,418 |
| Housing Account | 990 | 1,256 |
| Special Housing Account | .. | 7 |
| Public Authority Capital Expenditure Account .. | 1,000 | 1,051 |
| Grants for Housing Account | 1,641 | 1,415 |
| Total | 12,069 | 13,273 |

Since the number of individual accounts in the State Trust and Special Funds exceeds 130, a description or analysis of each account is beyond the scope of the Year Book. The annual report of the Auditor-General is a useful source in any investigations of transactions in the Trust and Special Funds.

State Loan Fund

The *Public Account Act* 1962 has, *inter alia*, the following provisions relating to the Loan Fund: (i) the Governor, on Treasury advice, may make transfers between block votes as long as the total authorised amount is not exceeded; (ii) a sum of up to \$400,000 may be spent for purposes not previously authorised; (iii) for purposes previously authorised, an additional sum of up to \$1,000,000 may be spent; (iv) in instances of expenditure outside

the provisions of a specific Loan Fund Appropriation Act, the ratification of such action is to be sought from Parliament before the close of the following financial year. The Act also provides that the unexpended balances of votes at the close of the financial year lapse (in contrast with previous practice when such balances were carried forward from year to year).

Expenditure from the Loan Fund is devoted to two main purposes: (i) the making of advances to State semi-government authorities; (ii) the carrying out of the State's own works programme. Such funds, whether lent to other authorities for their works programmes or spent directly by the State, result in the creation of new capital assets, a large proportion of which are revenue earning and therefore capable of re-imburasing the State for the debt charges which it has incurred. (The previous section on Consolidated Revenue Expenditure shows the *gross* and *net* expenditure on annual debt charges.)

In addition to money from loan raisings, the Loan Fund records other receipts such as repayment of advances and Commonwealth capital grants; it is usual, therefore, to record loan expenditure on both gross and net bases. The annual net loan expenditure is, in effect, the disbursement of the new borrowings for the year, augmented or diminished by the net movement in the Loan Fund balance. The following table shows the calculation of net loan expenditure from two viewpoints: (i) as a residue from gross loan expenditure; (ii) as the algebraic sum of new loan raisings and the net movement in the Loan Fund balance:

**State Loan Fund—Calculation of Net Loan Expenditure
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------|---------|---------|---------|
| (i) Gross Loan Expenditure .. | 35,816 | 39,411 | 40,161 |
| Less Repayments .. | 1,943 | 2,092 | 1,837 |
| Less Commonwealth Grants .. | 521 | 745 | 1,689 |
| Net Loan Expenditure .. | 33,352 | 36,573 | 36,636 |
| (ii) New Borrowings .. | 34,172 | 34,899 | 37,622 |
| Decrease, Loan Fund Balance .. | — 820 | 1,675 | — 988 |
| Other (a) | .. | .. | 2 |
| Net Loan Expenditure .. | 33,352 | 36,573 | 36,636 |

(a) Discount and capital appreciation items.

The following table shows gross and net loan expenditure annually:

**Loan Fund—Gross and Net Loan Expenditure
(\$'000)**

| Year | Loan Expenditure | | Year | Loan Expenditure | |
|---------------|------------------|--------|------------|------------------|--------|
| | Gross | Net | | Gross | Net |
| 1949-50 | 11,742 | 9,884 | 1958-59 .. | 27,610 | 25,112 |
| 1950-51 | 30,802 | 27,464 | 1959-60 .. | 29,130 | 26,442 |
| 1951-52 | 34,048 | 30,298 | 1960-61 .. | 33,866 | 30,612 |
| 1952-53 | 40,152 | 26,136 | 1961-62 .. | 32,520 | 30,088 |
| 1953-54 | 31,816 | 27,544 | 1962-63 .. | 33,332 | 30,510 |
| 1954-55 | 35,310 | 29,378 | 1963-64 .. | 35,354 | 32,905 |
| 1955-56 | 35,212 | 27,048 | 1964-65 .. | 35,816 | 33,352 |
| 1956-57 | 23,544 | 22,038 | 1965-66 .. | 39,411 | 36,573 |
| 1957-58 | 23,390 | 21,666 | 1966-67 .. | 40,161 | 36,636 |

In the remainder of this section, tables will deal with *net* loan expenditure only since this is directly related to aggregate net loan expenditure and to the State Public Debt.

In 1966-67, the principal items of loan fund expenditure were: (i) hydro-electric works; (ii) hospitals; (iii) education buildings; (iv) roads and bridges; (v) forestry. The following table shows *net* loan expenditure according to purpose for three years and the aggregate net loan expenditure to 30 June 1967:

**Loan Fund—Net Loan Expenditure, Annual and Aggregate
(\$'000)**

| Purpose | Annual Net Expenditure | | | Aggregate Net Expen- diture to 30 June 1967 |
|--|------------------------|----------|---------|---|
| | 1964-65 | 1965-66 | 1966-67 | |
| Capital for State Business Undertakings— | | | | |
| Hydro-Electric Development .. | 16,514 | 16,500 | 18,000 | 273,919 |
| Railways, Bus Services and Transport | 574 | 805 | 300 | 36,808 |
| Water Supply Schemes | 1,784 | 1,036 | 1,513 | 16,973 |
| Other | 138 | 224 | 165 | 2,697 |
| Total | 19,010 | 18,564 | 19,978 | 329,678 |
| Loans and Advances— | | | | |
| Aluminium Industry Agreements .. | — 67 | — 167 | — 167 | 5,328 |
| Assistance, Iron Ore Industry .. | .. | .. | 1,500 | 1,500 |
| Assistance to Industries | 312 | 343 | 1,513 | 4,509 |
| Tourist Accommodation Loans .. | 166 | 199 | 174 | 1,769 |
| Loans to Local Bodies | — 42 | 119 | — 64 | 1,541 |
| Housing—Advances and Construction (a) | — 333 | — 274 | — 278 | 27,692 |
| Primary Producers (including Land Settlement) (b) .. | r 702 | r 491 | 63 | 6,369 |
| Total | r 738 | r 710 | 2,741 | 48,708 |
| State Works and Purposes— | | | | |
| Roads, Bridges and Harbours .. | 3,468 | 4,422 | 1,893 | 57,486 |
| School Buildings and University .. | 4,053 | 4,438 | 4,026 | 50,858 |
| Hospital Buildings | 3,861 | 5,153 | 3,585 | 38,749 |
| Other Public Buildings | 878 | 415 | 1,379 | 14,464 |
| Forestry | 1,701 | 1,322 | 1,563 | 15,811 |
| Other Public Works and Purposes | r — 404 | r 1,541 | 1,231 | 16,448 |
| Total | r 13,558 | r 17,290 | 13,677 | 193,817 |
| Financial— | | | | |
| Loan Flotation and Conversion Expenses | 46 | 9 | — 65 | 5,102 |
| Capital Losses Funded | .. | .. | .. | 2,961 |
| Revenue Deficits Funded | .. | .. | 306 | 11,799 |
| Total | 46 | 9 | 241 | 19,862 |
| Grand Total | 33,352 | 36,573 | 36,636 | 592,064 |

(a) Expenditure under the second Commonwealth-State Housing agreement is excluded. Net advances under the agreement were \$7,154,930 in 1966-67 and net aggregate advances to 30 June 1967 were \$57,260,406.

(b) Expenditure for War Service Land Settlement from Commonwealth funds is excluded. Net advances amounted to \$329,516 in 1966-67 and net aggregate advances to 30 June 1967 were \$43,473,856.

r Revised.

The headings in the previous table have the following significance: expenditure classified under *Business Undertakings* and *Loans and Advances* is, in effect, a form of investment by the State. Such investment has two effects: (i) the net burden on Consolidated Revenue in respect of annual debt charges is not increased, since the Treasury obtains interest and sinking fund payments from the various authorities and enterprises to which money has been advanced; (ii) in some cases, the advances are recoverable and are credited to the Loan Fund as repayments (e.g. aluminium industry loans). Expenditure under *State Works and Purposes* results in the creation of physical assets (e.g. bridges, schools, etc.) but the associated annual debt charges are not recovered directly and lead to an increase in the net burden on Consolidated Revenue. Expenditure under *Financial* is not associated with the creation of any assets but it too increases the net burden on Consolidated Revenue in respect of annual debt charges. In each of the last three years, more than half of the annual net loan expenditure has been invested by the State in loans to other authorities and enterprises.

In the case of some State business undertakings, the capital indebtedness of the authority may not correspond closely with the associated aggregate net expenditure recorded in the Loan Fund, the principal example being the Transport Commission; the capital indebtedness of the railways was reduced by \$8,756,000 as from 1 July 1936 by transfer of the annual debt charges on this sum as a burden on Consolidated Revenue. Under the heading *Financial* appears an item 'Capital Losses Funded'; the principal component of the aggregate to 30 June 1967 was \$2,357,954 representing losses on returned soldiers' settlement schemes initiated after the First World War.

Aggregate net loan expenditure records the expenditure of loan borrowings from the commencement of the State Public Debt and the table indicates that the main liability is now for the following purposes (in descending order of magnitude): (i) hydro-electric development; (ii) roads, bridges and harbours; (iii) education buildings; (iv) hospitals; (v) railways, bus services, etc.; (vi) housing.

The relationship between aggregate net loan expenditure, total loans raised and the State Public Debt is established in the following table:

Aggregate Net Loan Expenditure and State Public Debt (a) at 30 June
(\$'000)

| Particulars | 1965 | r1966 | 1967 |
|--|---------|---------|---------|
| Aggregate Net Loan Expenditure.. | 518,866 | 555,428 | 592,064 |
| Unexpended Balance, Loan Fund .. | 3,429 | 1,755 | 2,743 |
| Grand Total Loans Raised .. | 522,295 | 557,182 | 594,806 |
| Less Aggregate Redemptions From Sinking Funds | 51,901 | 56,313 | 60,893 |
| Less Liability for Exchange on Overseas Redemption | 8,092 | 9,212 | 8,996 |
| State Public Debt (a) | 462,302 | 491,658 | 524,918 |

(a) Overseas component at exchange rates prevailing on 1 July 1927.

r Revised.

State Public Debt

The State Public Debt is calculated on two bases: (i) With overseas debt calculated at 'mint par of exchange', i.e. at the exchange rates prevailing on 1 July 1927. 'Mint par debt' is the official debt for the purpose of determining

sinking fund contributions payable under the Financial Agreement, 1927.
(ii) With overseas debt calculated at current rates of exchange. The following table shows the State Public Debt calculated on both bases:

State Public Debt at 30 June 1967—At Mint Par of Exchange and at Current Rates of Exchange

| Place in Which Debt Repayable | \$ Aust. at Mint Par of Exchange | | \$ Aust. at Current Rates of Exch. | |
|-------------------------------|----------------------------------|---------------|------------------------------------|---------------|
| | Conversion Rate of \$A (a) | Debt (\$'000) | Conversion Rate of \$A (b) | Debt (\$'000) |
| Australia | .. | 504,880 | .. | 504,880 |
| London | £0.5 sterling | 13,643 | £0.4 sterling | 17,054 |
| New York | U.S. \$2.43325 | 5,284 | U.S. \$1.1200 | 11,479 |
| Canada | C. \$2.43325 | 419 | C. \$1.2108 | 842 |
| Switzerland | S. Francs 12.61965 | 293 | S. Francs 4.8978 | 756 |
| Netherlands | Guilder 6.053925 | 399 | Guilder 4.0544 | 596 |
| Total | .. | 524,918 | .. | 535,606 |

(a) Exchange rates at 1 July 1927 (rates for £A 0.5).

(b) Exchange rates at 30 June 1967 for \$A.

The principal changes between the 1927 rates of exchange and those current today occurred in two stages: (i) 1930, when the Australian pound was devalued 20 per cent in relation to sterling; (ii) 1949, when the Australian pound was devalued by 30.5 per cent parallel to a similar devaluation in sterling.

The growth of the public debt, expressed at mint par of exchange, is shown in the following table:

State Public Debt—Place of Flotation and Nominal Interest Payable (\$'000)

| At 30 June | Debt Redeemable In— | | | | | | Total | Nominal Interest (a) |
|------------------|---------------------|----------|------------------|--------|------------------|-----------|---------|----------------------------|
| | London | New York | Switzer- land | Canada | Nether- lands | Australia | | |
| 1957.. | 12,972 | 692 | .. | .. | .. | 251,504 | 265,168 | 10,430 |
| 1958.. | 12,932 | 1,308 | .. | .. | .. | 271,882 | 286,122 | 11,504 |
| 1959.. | 14,732 | 1,918 | .. | .. | .. | 291,000 | 307,650 | 12,540 |
| 1960.. | 14,682 | 2,482 | .. | .. | .. | 313,880 | 331,044 | 13,806 |
| 1961.. | 14,662 | 3,056 | 293 | 505 | .. | 336,042 | 354,559 | 15,362 |
| 1962.. | 14,652 | 3,572 | 293 | 505 | 399 | 359,830 | 379,252 | 16,658 |
| 1963.. | 16,092 | 4,846 | 293 | 505 | 399 | 382,458 | 404,594 | 18,012 |
| 1964.. | 17,724 | 4,684 | 293 | 486 | 399 | 408,724 | 432,311 | 19,259 |
| 1965.. | 17,544 | 4,430 | 293 | 473 | 399 | 439,163 | 462,302 | 21,707 |
| 1966.. | 13,733 | 5,743 | 293 | 444 | 399 | 471,045 | 491,658 | 23,987 |
| 1967.. | 13,643 | 5,284 | 293 | 419 | 399 | 504,880 | 524,918 | 25,940 |

(a) Interest has been calculated on the face value of individual loans outstanding at 30 June; no allowance has been made for variations in exchange rates since 1 July 1927.

A notable feature of the public debt of the State is that approximately 95 per cent of indebtedness is now domiciled in Australia. There has been a gradual change from the situation which existed a century ago when nearly all loans were financed in London. In 1870, the State's public debt (\$2,537,400) was wholly redeemable in London and even in 1900, less than 10 per cent of the State debt was redeemable in Australia.

B *A* *S*



**URBAN
BURNIE – SOMERSET**

SCALE

| | | | | | | |
|--------|----|----|---|----|----|--------|
| CHAINS | 40 | 20 | 0 | 40 | 80 | CHAINS |
|--------|----|----|---|----|----|--------|

REFERENCE

Urban Boundary _____
Municipality Boundary _____ BURNIE

Public Debt Transactions

The following table shows particulars of loans raised and redeemed during a three-year period (expressed at mint par of exchange). It will be observed that redemption of loans falling due in any particular year is achieved, in the main, by conversion (i.e. by renewal of the original loans on new terms and conditions):

State Public Debt—Conversion and Redemption (a)
(\$'000)

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------------|----------------|----------------|----------------|
| Loans Raised— | | | |
| For Additional Borrowings | 34,178 | 33,020 | 37,694 |
| For Conversion Purposes | 35,890 | 53,214 | 38,648 |
| For Redemption, Maturing Loans | 1,560 | 9,472 | 2,517 |
| Total Raisings | 71,628 | 95,707 | 78,858 |
| Deduct— | | | |
| Loans Redeemed— | | | |
| By Conversion | 35,890 | 53,214 | 38,648 |
| From New Cash Raisings | 1,560 | 8,649 | 2,299 |
| From National Debt Sinking Fund | 4,187 | 4,487 | 4,652 |
| Net Increase in Public Debt .. | 29,991 | 29,355 | 33,260 |
| Debt at End of Year .. | 462,302 | 491,658 | 524,918 |

(a) At exchange rates at 1 July 1927.

The following table shows the due dates of loans outstanding *at current exchange rates* (i.e. at the rates prevailing at 30 June 1967) and also the country in which the loans will fall due.

Due Dates of Loans at 30 June 1967
(\$'000)

| Maturing During | Amount Maturing | | | | Total |
|------------------------|-----------------|---------------|---------------|--------------------|----------------|
| | In Australia | In London | In New York | Elsewhere Overseas | |
| 1967-68 | 55,302 | 6,577 | .. | .. | 61,879 |
| 1968-69 | 38,080 | .. | .. | .. | 38,080 |
| 1969-70 | 57,838 | 1,419 | .. | .. | 59,257 |
| 1970-71 | 18,855 | .. | 266 | .. | 19,121 |
| 1971-72 | 23,682 | .. | 418 | .. | 24,100 |
| 1972-73 | 30,473 | .. | 953 | .. | 31,426 |
| 1973-74 | 17,881 | .. | .. | .. | 17,881 |
| 1974-75 | 23,201 | 2,478 | .. | .. | 25,679 |
| 1975-76 | 29,789 | 210 | .. | 756 | 30,755 |
| 1976-77 | 16,029 | .. | .. | .. | 16,029 |
| 1977-78 | 998 | 1,788 | .. | .. | 2,786 |
| After 30 June 1978 (a) | 192,750 | 4,583 | 9,843 | 1,437 | 208,613 |
| Total .. | 504,880 | 17,054 | 11,479 | 2,193 | 535,606 |

(a) Falling due in financial years 1978-79 to 2001-02.

The following table shows the rates of interest which were payable on the State Debt and the portions of the debt at each rate in Australia, London, New York and elsewhere overseas respectively (*at current exchange rates*):

**Rates of Interest on Public Debt at 30 June 1967
(\$'000)**

| Rate of Interest (Per Cent) | Amount Maturing | | | | Total |
|--------------------------------|-----------------|-----------|-------------|--------------------|---------|
| | In Australia | In London | In New York | Elsewhere Overseas | |
| 1.0 | 543 | .. | .. | .. | 543 |
| 3.0 | .. | 1,877 | .. | .. | 1,877 |
| 3.25 | .. | 3,897 | .. | .. | 3,897 |
| 4.0 | 966 | 4,699 | .. | .. | 5,666 |
| 4.125 | 15,360 | .. | .. | .. | 15,360 |
| 4.1875 | 1,812 | .. | .. | .. | 1,812 |
| 4.25 | 25,435 | .. | .. | .. | 25,435 |
| 4.3125 | 850 | .. | .. | .. | 850 |
| 4.4375 | 2,092 | .. | .. | .. | 2,092 |
| 4.5 | 107,601 | .. | 266 | 756 | 108,623 |
| 4.625 | 2,954 | .. | .. | .. | 2,954 |
| 4.75 | 37,043 | .. | 953 | .. | 37,996 |
| 5.0 | 214,684 | .. | 1,215 | 596 | 216,495 |
| 5.25 | 78,177 | .. | 1,980 | .. | 80,157 |
| 5.375 | 17,362 | .. | .. | .. | 17,362 |
| 5.5 | .. | 6,173 | 3,532 | .. | 9,705 |
| 5.75 | .. | .. | 3,533 | 842 | 4,375 |
| 6.0 | .. | 408 | .. | .. | 408 |
| Total .. | 504,880 | 17,054 | 11,479 | 2,193 | 535,606 |

The National Debt Commission was established as part of the 1927 Financial Agreement and its function is to administer one consolidated sinking fund in respect of the debt of the Commonwealth and States. Sinking fund moneys are used to redeem unconverted securities at maturity, and to repurchase securities on the stock market. The obligations of the States and the Commonwealth in contributing to the consolidated sinking fund are set out earlier in this chapter in a section headed 'Payments under the Financial Agreement (1927)'; although the Commission operates a consolidated fund, it is possible to obtain statements for its operations with respect to each State's public debt.

The next table summarises the transactions of the National Debt Commission in relation to the Tasmanian Public Debt:

**National Debt Commission—Transactions in Respect of Tasmanian Public Debt
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------------|---------|---------|---------|
| Balance at Beginning of Period | 337 | 330 | 159 |
| Contributions— | | | |
| From Commonwealth Government | 1,129 | 1,212 | 1,293 |
| From State Government | 3,392 | 3,641 | 3,892 |
| Interest Received (Net) | — 1 | 6 | 2 |
| Funds Available | 4,857 | 5,189 | 5,347 |
| Deduct | | | |
| Redemptions and Re-purchases (a)— | | | |
| At Mint Par of Exchange | 4,187 | 4,487 | 4,652 |
| Exchange Adjustment | 340 | 543 | 347 |
| Balance at End of Period | 330 | 159 | 348 |

(a) The sum of the two specified items represents the cost at current rates of exchange.

Taxation in Tasmania

Introduction

As citizens of the Commonwealth, Tasmanians are subject to taxes levied both by the State and the Commonwealth. The relative magnitude and severity of the two forms of taxation are compared in the following table:

Taxation, State of Tasmania and Commonwealth, 1966-67 (a)

| Tax | Amount (\$'000) | | Per Head of Population (\$) | |
|----------------------------------|-----------------|-----------------------|-----------------------------|-----------------------|
| | Tasmania (b) | Common- wealth (c) | Tasmania (d) | Common- wealth (d) |
| Income | .. | 2,730,347 | .. | 233.18 |
| Customs and Excise | .. | 1,081,603 | .. | 92.38 |
| Sales | .. | 380,675 | .. | 32.51 |
| Pay-roll | .. | 172,232 | .. | 14.71 |
| Probate and Succession Duties .. | 2,149 | 41,534 | 5.75 | 3.55 |
| Motor | 4,860 | .. | 13.00 | .. |
| Stamp Duties | 3,466 | .. | 9.27 | .. |
| Land | 2,108 | .. | 5.64 | .. |
| Racing | 1,127 | .. | 3.02 | .. |
| Liquor | 887 | .. | 2.37 | .. |
| Entertainment | .. | .. | .. | .. |
| All Other | 31 | 47,941 | 0.08 | 4.09 |
| Total | 14,630 | 4,454,331 | 39.13 | 380.43 |

(a) Collections from all sources of taxation, including amounts paid to special funds.

(b) State taxation collected by Tasmanian Government.

(c) Commonwealth Government taxation for Australia.

(d) Based on respective *mean* populations.

Assuming that Tasmanians contributed to Commonwealth taxation in strict proportion to the relative mean populations of the State and the Commonwealth, it would be theoretically correct to add the two per capita figures (\$39.13 and \$380.43) and arrive at a figure of \$419.56 as the total per capita taxation of the Tasmanian and Commonwealth Governments within the State. An alternative way of examining the problem is to refer to total Commonwealth taxes collected in Tasmania but this measure is unsatisfactory for a number of reasons, the chief defects being:

- (i) Commonwealth income tax and estate duty are recorded not only in the six States but also in a *Central Office* collecting from individuals and companies with specified interstate income or assets. Central Office collections of income tax amount to approximately one-third of the Australian total and, to this extent, reduce the collections credited to the six States.
- (ii) Goods shipped to Tasmania will, in some cases, already have been taxed in another State in respect of customs, excise or sales taxes. Even though other States are credited with the collection of these three taxes, the fact remains that Tasmanians bear their incidence in the form of increased commodity prices. The amount of tax collected in other Australian States on goods shipped to Tasmania is not known.

Estimated Incidence

The following table shows actual collections of Commonwealth taxes in the State and also their estimated incidence:

**Taxation—Collected by Commonwealth in Tasmania and
Estimated Incidence in Tasmania**
(**\$'000**)

| Tax | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Collected in Tasmania— | | | |
| Income Tax (a) | 44,958 | 53,189 | 61,070 |
| Estate Duty (a) | 638 | 682 | 519 |
| Wool Tax | 321 | 395 | 378 |
| Export Charges | 187 | 174 | 119 |
| Pay-roll Tax | 3,807 | 4,182 | 4,897 |
| Gift Duty | 137 | 122 | 116 |
| Stevedoring Industry Charge | 567 | 465 | 503 |
| Butter Fat Levy | | 122 | 136 |
| Other Levies | 2 | 47 | 71 |
| Sales Tax | 7,950 | 7,839 | 9,962 |
| Customs | 1,801 | 2,413 | 3,041 |
| Excise | 16,466 | 19,139 | 20,987 |
| Total Collected in Tasmania | 76,834 | 88,768 | 101,801 |
| Collected Elsewhere in Australia (b)— | | | |
| Sales Tax | 3,176 | 3,391 | 1,464 |
| Customs | 6,433 | 5,809 | 5,218 |
| Excise | 2,890 | 3,678 | 3,223 |
| Estimated Incidence (a) | 89,333 | 101,645 | 111,707 |

(a) Excludes Central Office collections.

(b) Estimated; goods on which these taxes were paid are assumed to have been sold in Tasmania.

In estimating the collection, in other Australian States, of the main taxes affecting Tasmanians, account was taken of the latest retail sales figures which show Tasmanian *per head* sales to be 94 per cent of the corresponding Australian figure. Accordingly the *per head* incidence of customs, excise and sales taxes in Tasmania was taken to be 94 per cent of the Australian *per head* collection figure for each tax. It will be apparent that the estimated incidence still falls far short of a realistic figure due to the unknown Tasmanian contribution to Central Office collections of income tax and estate duty.

Commonwealth Income Tax

Uniform taxation on incomes throughout Australia was adopted in 1942 when the Commonwealth Government became the sole authority levying this tax.

With the introduction of Social Services Contribution from 1 July 1946, the levy of taxation on the incomes of individuals was divided into two separate taxes: (i) Income Tax; (ii) Social Services Contribution. Both taxes were based upon the same definitions of assessable income and both were assessed and collected concurrently. Company income was not subject to Social Services Contribution except with regard to the undistributed income of private companies. The two taxes were later merged into a single levy known as 'Income Tax and Social Services Contribution' and this title referred to the tax imposed on the incomes of both individuals and companies. It first applied to the tax imposed on incomes derived by individuals during the year ended 30 June 1951, and by companies during the year ended 30 June 1950. The term now in use is simply 'Income Tax Contribution'.

Certain types of income are exempt from tax in Australia. These include income from gold and uranium mining; war, invalid, age, and widows' pensions; child endowment; and unemployment and sickness benefits.

Expenses incurred in earning income and losses incurred in previous years are allowable deductions in calculating taxable income.

For the income year 1967-68, Income Tax Contribution was payable on the incomes of individuals and commenced at a taxable income of \$417. However, certain limitations applied to the tax payable by aged persons, over 65 years of age in the case of a male and over 60 years in the case of a female. Concessional deductions were allowed to taxpayers on account of dependants, certain medical and dental expenses, life insurance premiums, superannuation contributions, medical or hospital benefits fund payments, education expenses, etc. and were subtracted from income to calculate taxable income. Dependants included spouse, parents, parents-in-law, children under sixteen years of age, student children under 21 years of age, invalid child, brother or sister over 16 years of age, or daughter-housekeeper for widow or widower. A concessional deduction might be allowed for a housekeeper having the care of children under 16 years of age or of an invalid relative where the taxpayer did not contribute to the maintenance of a spouse or daughter-housekeeper. The amount of concessional deduction allowable in respect of each type of dependant and housekeeper was:

spouse, \$312; parent or parent-in-law, \$312; children under 16 years: one child, \$208, other children, \$156; student child, 16 to 21 years, \$208 each; invalid relative not less than 16 years, \$208 each; housekeeper or daughter-housekeeper, \$312.

In the matter of education expenses, payments actually made for recognised school uniforms, fees, books, fares, etc. were allowed as deductions up to a maximum of \$300 per child or dependant.

The following table shows the rates of Income Tax and Social Services Contribution for individuals for the income year 1967-68:

**Australia—Rates of Income Tax
Contribution for Individuals, Income Year 1967-68**

(**\$**)

| Selected Total Taxable Income | Tax and Contribution Payable | Selected Total Taxable Income | Tax and Contribution Payable |
|----------------------------------|------------------------------------|----------------------------------|------------------------------------|
| 417 | 0.51 | 3,200 | 518.34 |
| 500 | 9.63 | 3,400 | 579.02 |
| 600 | 15.88 | 3,600 | 639.70 |
| 700 | 24.29 | 3,800 | 705.50 |
| 800 | 32.69 | 4,000 | 771.31 |
| 1,000 | 54.83 | 4,800 | 1,061.59 |
| 1,200 | 80.46 | 5,600 | 1,375.65 |
| 1,400 | 109.57 | 6,400 | r1,713.49 |
| 1,600 | 142.16 | 7,200 | r2,072.65 |
| 1,800 | 178.24 | 8,000 | r2,452.31 |
| 2,000 | 217.81 | 8,800 | r2,851.65 |
| 2,200 | 262.09 | 10,000 | r3,487.56 |
| 2,400 | 306.37 | 12,000 | r4,615.06 |
| 2,600 | 356.80 | 16,000 | r6,988.96 |
| 2,800 | 407.23 | 20,000 | r9,465.36 |
| 3,000 | 462.78 | 32,000 (a) | r17,251.26 |

(a) Income in excess of \$32,000 was taxed at the rate of 68.37 cents for each dollar of excess.
r Revised.

There has been little variation in the rates of income tax on individuals since 1954-55, the chief change relating to a general five per cent rebate of tax operative in the years 1959-60, 1961-62, 1962-63 and 1963-64. For the year

1964-65, the rebate was withdrawn and from 1965-66 a $2\frac{1}{2}$ per cent levy was added. The other major change was the lift in the minimum taxable income from the previous \$210 to \$417 in 1963-64. In general then, the rates of income tax for the 1967-68 income year are those for 1954-55 increased by only $2\frac{1}{2}$ per cent. The yield from income tax in this period has shown steep annual increases, not because of rate variations, but because taxable incomes have also been rising.

A system operates whereby the majority of taxpayers have regular deductions made from their salaries or wages, i.e. the 'pay-as-you-earn' principle. The amounts deducted are regulated so that the employee will have paid the approximate amount of his taxation by the end of the income year. At the end of the income year, the employee makes a return in which he may claim the refund of any overpayment of taxation instalments.

The following table shows the number of taxpayers, taxable income, and Income Tax Contribution assessed during the year 1966-67 (based on incomes received during the year 1965-66).

The following definitions apply to the table:

- (i) Actual Income: Gross income *including exempt income less expenses incurred in earning that income.*
- (ii) Individuals: *Excluding companies.* Residents assessed both in Tasmania and at Central Office, also non-residents assessed in Tasmania.
- (iii) Taxable Income: Actual income *less* exempt income and *less* allowable deductions.

**Tasmania, Income Tax Contribution—Income Year 1965-66
Individuals—Residents and Non-Residents**

| Grade of Actual Income | Taxpayers | Taxable Income | | | Net Income Tax Contribution Assessed |
|------------------------------|-----------|-----------------------|---------|--------|---|
| | | Salaries and Wages | Other | Total | |
| \$ | no. | \$'000 | \$'000 | \$'000 | \$'000 |
| 417- 599 | .. | 4,574 | 1,921 | 313 | 2,234 |
| 600- 799 | .. | 5,612 | 3,093 | 553 | 3,646 |
| 800- 999 | .. | 6,924 | 4,907 | 789 | 5,697 |
| 1,000- 1,199 | .. | 7,656 | 6,408 | 1,162 | 7,570 |
| 1,200- 1,399 | .. | 7,484 | 7,207 | 1,438 | 8,646 |
| 1,400- 1,599 | .. | 8,095 | 8,993 | 1,696 | 10,689 |
| 1,600- 1,799 | .. | 7,708 | 9,470 | 1,830 | 11,300 |
| 1,800- 1,999 | .. | 7,830 | 10,259 | 2,056 | 12,315 |
| 2,000- 2,199 | .. | 9,686 | 13,909 | 2,321 | 16,231 |
| 2,200- 2,399 | .. | 10,256 | 15,949 | 2,294 | 18,243 |
| 2,400- 2,599 | .. | 10,299 | 17,115 | 2,411 | 19,526 |
| 2,600- 2,799 | .. | 9,355 | 16,379 | 2,418 | 18,797 |
| 2,800- 2,999 | .. | 7,596 | 13,937 | 2,326 | 16,263 |
| 3,000- 3,999 | .. | 24,066 | 50,239 | 10,671 | 60,910 |
| 4,000- 5,999 | .. | 12,467 | 30,592 | 14,178 | 44,770 |
| 6,000- 7,999 | .. | 2,914 | 7,825 | 8,046 | 15,872 |
| 8,000- 9,999 | .. | 1,087 | 3,042 | 4,907 | 7,949 |
| 10,000-19,999 | .. | 1,204 | 2,965 | 10,476 | 13,441 |
| 20,000-29,999 | .. | 118 | 283 | 2,125 | 2,408 |
| 30,000 and over | .. | 33 | 113 | 1,141 | 1,254 |
| Total | .. | 144,964 | 224,607 | 73,153 | 297,760 |
| | | | | | 42,580 |

Companies (Income Tax)

The tax payable by companies for the financial year 1967-68 is based on income derived during the year ended 30 June 1967 or substituted accounting period. (In the case of tax on individuals, however, financial year and income year are usually synonymous).

The following table shows the rates of tax and contribution payable by companies for the financial years 1965-66 to 1967-68 inclusive:

**Rates of Income Tax Contribution
Companies—Financial Year 1967-68**

| Scale | Taxable Income | |
|---------|----------------|--------------|
| | Up to \$10,000 | Balance |
| | cents per \$ | cents per \$ |
| A | 27.5 | 37.5 |
| B | 32.5 | 42.5 |
| C | 37.5 | 42.5 |
| D | 32.5 | 32.5 |

The following shows the application of the above scales to the various types of company:

Private: (A) except that 50 cents in the \$ was payable on the undistributed amount.

Co-operative: (B).

Life Assurance: If purely mutual (A). Other Life Assurance (if resident), mutual income (A); other income (C) except that maximum other income subject to 37.5 cent rate is \$10,000 less mutual income; if non-resident, mutual income (A), dividend income (B), other income (C) except that maximum dividend income subject to 32.5 cent rate is \$10,000 less mutual income, and maximum other income subject to 37.5 cent rate is \$10,000 less the sum of dividend and mutual income.

Non-Profit: Friendly Society Dispensary (D); other (B).

Other Companies: Resident (C); non-resident—dividend income (B), other income (C) except that maximum other income subject to 37.5 cent rate is \$10,000 less dividend income.

Certain types of interest payments were also subject to a tax of 42.5 cents in the \$.

State Taxation

In the section on Consolidated Revenue, taxes collected by the Tasmanian Government were shown in summarised form.

The next table gives full details of State taxation. It should be noted that certain taxes are reserved for special purposes. Examples are: (i) Land Tax—although this item is recorded as a Consolidated Revenue receipt, it is passed to the Transport Commission; (ii) Motor Taxation—the component specified as 'for Consolidated Revenue' is passed to the State Highway Trust Fund; (iii) Racing and Gaming Taxes—part of the 'other funds' item is passed to the racing clubs and the remainder spent on administration of racing.

Tax Collections by the Tasmanian Government (a)
(\$'000)

| Tax | 1964-65 | 1965-66 | 1966-67 |
|---|---------|----------|---------|
| Deceased Persons' Estates Duties .. . | 2,006 | 2,005 | 2,149 |
| Entertainments Tax (b) .. . | .. | .. | .. |
| Stamp Duties (excluding Bookmakers' Tickets)— | | | |
| Cheques .. . | 284 | 509 | 568 |
| Bills of Exchange .. . | 1 | 3 | 1 |
| Bills of Lading .. . | 1 | 1 | .. |
| Hire-Purchase Agreements .. . | 402 | 413 | 471 |
| Legal Documents, etc. .. . | 998 | 978 | 1,090 |
| Adhesive Revenue Stamps .. . | 400 | 392 | 447 |
| Insurances .. . | 543 | 782 | 889 |
| Racing and Gaming Taxes— | | | |
| For Consolidated Revenue .. . | 557 | 633 | 685 |
| For Other Funds .. . | 458 | 408 | 442 |
| Land Tax .. . | 1,678 | 2,029 | 2,108 |
| Motor Taxation— | | | |
| For Consolidated Revenue .. . | 3,153 | 3,425 | 3,961 |
| For Other Funds .. . | 784 | r 812 | 899 |
| Liquor Tax and Related Licences— | | | |
| Tax .. . | 547 | 638 | 749 |
| Publicans' Licences, etc. .. . | 32 | 30 | 39 |
| Wholesale Licences .. . | 46 | 67 | 95 |
| Registration of Clubs .. . | 5 | 4 | 4 |
| Sundry Licences— | | | |
| Animals' and Birds' Protection Act .. . | 13 | 14 | 20 |
| Auctioneers and Estate Agents .. . | 7 | 7 | 7 |
| Other .. . | 5 | 5 | 5 |
| Total .. . | 11,918 | r 13,154 | 14,630 |

(a) Collections from all sources of taxation, including amounts paid to special funds.

(b) Collected until September 1963 and re-imposed in 1967-68.

r Revised.

State Land Tax

The rates of land tax assessed on urban unimproved land values for the year 1966-67 are shown in the following table:

Rates of State Land Tax—Urban Land, 1966-67
(\\$)

| Taxable Value (Selected Values) (a) | Tax Payable | Taxable Value (Selected Values) (a) | Tax Payable |
|---|-------------|---|-------------|
| 500 | 1 | 15,000 | 105 |
| 1,000 | 2 | 25,000 | 225 |
| 2,000 | 5 | 50,000 | 575 |
| 4,000 | 13 | 100,000 | 1,575 |
| 6,000 | 23 | 150,000 | 2,825 |
| 10,000 | 55 | .. | .. |

(a) Tax on intermediate values can be calculated by simple proportion, e.g. tax on \$5,000 equals \$13 plus $1,000/2,000$ (\$23 less \$13). Land values exceeding \$150,000 were further taxed at 3 cents in the \\$ on the excess.

The rates of land tax assessed on rural land values for the year 1966-67 are shown in the following table:

Rates of State Land Tax—Rural Land, 1966-67

| Unimproved Value (\$) | Taxable Value | Tax Rate |
|-----------------------|--|-------------------|
| 1-10,000 | Nil | Nil |
| 10,001-15,000 | Three times the unimproved value less \$30,000 | As for Urban land |
| 15,001 and over | Unimproved value | As for Urban land |

The following table summarises the value of urban, rural and composite properties and the tax assessed on each:

State Land Tax—Value of Properties and Tax Assessed
(\$'000)

| Year | Gross Unimproved Value | | | | Tax Assessed | | | |
|---------|------------------------|--------|---------------|---------|--------------|-------|---------------|-------|
| | Urban | Rural | Composite (a) | Total | Urban | Rural | Composite (a) | Total |
| 1962-63 | 134,012 | 65,976 | 16,020 | 216,008 | 958 | 126 | 182 | 1,266 |
| 1963-64 | 174,826 | 80,092 | 16,712 | 271,630 | 1,319 | 113 | 178 | 1,610 |
| 1964-65 | 182,497 | 90,412 | 17,612 | 290,520 | 1,367 | 118 | 188 | 1,672 |
| 1965-66 | 200,514 | 99,253 | 17,969 | 317,735 | 1,686 | 142 | 214 | 2,043 |
| 1966-67 | 211,334 | 98,382 | 19,428 | 329,145 | 1,709 | 158 | 241 | 2,109 |

(a) Properties made up of both urban and rural land.

Deceased Persons' Estates Duties

The legislation dealing with State Deceased Persons' Estates Duties is contained in Acts No. 42 of 1957 and No. 62 of 1962. The following table gives details of assessments for 1966-67:

State Deceased Persons' Estates Duties
Number of Estates, Net Value and Tax Assessed, 1966-67

| Grade of Dutiable Value | Estates | | Net Value as Assessed | Total Duty Assessed (a) | Average Duty | |
|-------------------------|-----------------|----------------|-----------------------|-------------------------|---------------------|--------------------|
| | Number Examined | Number Taxable | | | Per Estate Examined | Per Taxable Estate |
| \$ | no. | no. | \$'000 | \$'000 | \$ | \$ |
| 1- 500 .. | 151 | 20 | 24 | (b) | 3.0 | 22.3 |
| 501- 1,000 .. | 88 | 14 | 66 | 1 | 15.9 | 100.0 |
| 1,001- 1,500 .. | 85 | 24 | 103 | 2 | 25.7 | 91.0 |
| 1,501- 2,000 .. | 92 | 21 | 164 | 3 | 30.9 | 135.4 |
| 2,001- 3,000 .. | 147 | 34 | 361 | 6 | 42.0 | 181.6 |
| 3,001- 4,000 .. | 141 | 40 | 489 | 11 | 76.9 | 270.9 |
| 4,001- 5,000 .. | 125 | 79 | 521 | 12 | 93.7 | 148.3 |
| 5,001- 6,000 .. | 98 | 71 | 527 | 14 | 147.6 | 203.8 |
| 6,001- 8,000 .. | 153 | 115 | 1,048 | 37 | 242.9 | 323.1 |
| 8,001- 10,000 .. | 130 | 94 | 1,137 | 45 | 345.0 | 477.1 |
| 10,001- 15,000 .. | 161 | 121 | 2,000 | 95 | 592.5 | 788.4 |
| 15,001- 20,000 .. | 93 | 93 | 1,467 | 105 | 1,125.3 | 1,125.3 |
| 20,001- 30,000 .. | 97 | 96 | 2,056 | 163 | 1,679.6 | 1,697.1 |
| 30,001- 40,000 .. | 64 | 64 | 1,912 | 187 | 2,923.0 | 2,923.0 |
| 40,001- 50,000 .. | 39 | 39 | 1,409 | 140 | 3,592.6 | 3,592.6 |
| 50,001-100,000 .. | 81 | 81 | 4,624 | 641 | 7,917.0 | 7,917.0 |
| 100,001 and over .. | 48 | 48 | 5,198 | 1,081 | 22,525.6 | 22,525.6 |
| Adjustments .. | .. | .. | .. | 7 | .. | .. |
| Total .. | 1,793 | 1,054 | 23,105 | 2,538 | .. | .. |

(a) Rates of duty and levels of exemption vary according to the class of beneficiary and the type of asset contained in the estate.

(b) Under \$500.

Motor Taxation

The chief components of motor taxation are: (i) vehicle registration fees; (ii) motor tax assessed on a power-weight formula; (iii) drivers' and riders' licences; (iv) other registration fees mainly related to public vehicles.

Details of motor taxation collections are shown in the following table:

**State Motor Taxation
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| Vehicle Registration Fees | 481 | r 529 | 562 |
| Motor Tax | 2,837 | r 2,970 | 3,424 |
| Licences—Drivers and Riders | 271 | 381 | 486 |
| Other Registration Fees | 348 | 358 | 388 |
| Total | 3,937 | r 4,237 | 4,860 |

r Revised.

The principle applicable to motor taxation is that it must be devoted to expenditure on roads. Most of the taxation shown in the previous table is passed, via Consolidated Revenue, to the State Highway Trust Fund but a proportion is paid to the Transport Commission; details of this dissection appear in the earlier table 'Tax Collections by the Tasmanian Government'.

Racing Taxation

Under the *Racing and Gaming Act 1952*, licensed bookmakers pay a turnover commission of $2\frac{1}{2}$ per cent if fielding at a Tasmanian course or taking bets on Tasmanian events at off-course premises. Bets on races outside Tasmania made at off-course premises are taxed at $2\frac{1}{2}$ per cent and this levy, together with totalisator tax (5 per cent city and $2\frac{1}{2}$ per cent country), is payable to Consolidated Revenue once two charges have been met: (i) the administrative costs of the Racing Commission, with an annual maximum of \$40,000; (ii) a contribution to the racing assistance fund, again with an annual maximum of \$40,000.

Details of Racing Taxation are:

**State Racing Taxation—Collection and Distribution
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| Totalisator Tax (a) | 61 | 55 | 56 |
| Bookmakers' Commission and Licences (a) | 791 | 820 | 895 |
| Stamp Duty on Bookmakers' Tickets (b) | 163 | 166 | 176 |
| Total | 1,014 | 1,041 | 1,127 |
| Paid into Consolidated Revenue (b) | 557 | 633 | 685 |
| Adjustment (c) | 26 | 4 | 15 |
| Racing Commission Expenses (a) | 34 | 34 | 37 |
| Stipendiary Stewards' Expenses (a) | 11 | 12 | 11 |
| Racing Clubs' Commission (a) | 343 | 318 | 340 |
| Racing Assistance Fund (a) | 43 | 40 | 40 |

(a) Accounting year ended 31 July.

(b) Financial year ended 30 June.

(c) See notes (a) and (b).

The turnovers on which commissions were levied are as follows:

**Betting—Bookmakers' Turnover and Totalisator Turnover
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Licensed Bookmakers' Turnover | 32,612 | 32,137 | 35,091 |
| Totalisator Turnover | 1,274 | 1,149 | 1,174 |

State Taxation on Lotteries

From 1942 (when the Commonwealth Government became the sole collector of income tax), lotteries conducted from Hobart by Tattersalls (George Adams Estate) were Tasmania's chief source of revenue from State taxation. On 14 July 1954, the promoters transferred their operations to Victoria. A new organisation—Tasmanian Lotteries—was granted a licence and operated until 30 September 1961, when the proprietor surrendered the licence. No operator is now licensed.

The following records the contributions made to Consolidated Revenue by lotteries taxation from 1949-50:

**Taxation and Stamp Duties Imposed on Lotteries—Paid to Consolidated Revenue
(\$'000)**

| Year | Taxation and Stamp Duties | Year | Taxation and Stamp Duties | Year | Taxation and Stamp Duties |
|------------|---------------------------|------------|---------------------------|------------|---------------------------|
| 1949-50 .. | 2,152 | 1953-54 .. | 3,032 | 1957-58 .. | 740 |
| 1950-51 .. | 2,430 | 1954-55 .. | 1,152 | 1958-59 .. | 432 |
| 1951-52 .. | 2,634 | 1955-56 .. | 2,114 | 1959-60 .. | 278 |
| 1952-53 .. | 2,952 | 1956-57 .. | 1,930 | 1960-61 .. | 60 |

In September 1960 the *Racing and Gaming Act* 1952 was amended to permit agreements with other States for the sale of their lottery tickets in Tasmania. Under an agreement with the Victorian Government, Tattersalls were allowed to sell tickets through accredited Tasmanian representatives; the Victorian Government was to pay quarterly to the Tasmanian Government 15½ per cent of the value of subscriptions made as a result of this concession. The amounts received under the agreement have been: 1960-61, \$84,876; 1961-62, \$137,914; 1962-63, \$134,476; 1963-64, \$145,394; 1964-65, \$146,500; 1965-66, \$152,338; 1966-67, \$140,995. For the purpose of Public Finance Statistics, these amounts are classified not as 'taxation' but as 'payments from other States'. The logic is that taxation on lottery turnover is imposed and collected by the Victorian Government, not by the Tasmanian Government.

PRIVATE FINANCE

Decimal Currency

An account of early currency in Tasmania appears in the 1968 *Year Book*.

Changeover to Decimal Currency

Australia, until 1966, used a currency system inherited from the United Kingdom; the £-s-d currency had these relationships: (i) 12 pence equals one shilling; (ii) 20 shillings equals one pound. Since the penny was further divided

down to the halfpenny, fractional parts of a pound sometimes required representation by a five position notation, e.g. £12-18-11½. From 1930, the Australian pound differed in value from the pound sterling.

In February 1959, the Commonwealth Government appointed the Decimal Currency Committee to investigate the advantages and disadvantages of a decimal currency; if it favoured such a currency, the Committee was to recommend what should be the unit of account and how the system should be introduced. The Committee made its report in August 1960 and in 1963, legislation was passed to introduce decimal currency into Australia by 1966. Other countries previously using the £-s-d system also favoured change to a decimal currency; the first to convert was South Africa followed by Australia and then New Zealand. The United Kingdom where £-s-d currency originated is now preparing to change over to a decimal system.

Conversion Systems

On 14 February 1966, Australia changed from an £-s-d to a decimal currency, the basic link being the equation of 10 shillings (old currency) with the Australian dollar (new currency). The Committee which recommended this scheme of conversion to the Federal Government had also examined the possibility of retaining the Australian pound as the basic unit and the following table shows two possible systems:

Conversion of £-s-d to Decimal Basis: Two Possible Systems

| £-s-d Currency Units | With \$A as Base | | With £A as Base | |
|----------------------------|--------------------|----------------------|-----------------|--|
| | System (A) | | System (B) | |
| | Two Decimal Places | Three Decimal Places | | |
| £1-0-0 | 2.00 | 1.00 | 1.000 | |
| £0-10-0 | 1.00 | 0.50 | 0.500 | |
| £0-5-0 | 0.50 | 0.25 | 0.250 | |
| £0-2-0 | 0.20 | 0.10 | 0.100 | |
| £0-1-0 | 0.10 | 0.05 | 0.050 | |
| £0-0-6 | 0.05 | (a) | 0.025 | |
| New lowest unit | (b) 0.01 | (c) 0.01 | (b) 0.005 | |

(a) Impossible to express in two decimal place notation.

(b) One fifth of sixpence.

(c) One fifth of shilling.

The comparative merits of the two systems are as follows: *System (A)*: All existing notes and coins down to sixpence can be used in the transition period with unchanged relative value; the mental arithmetic of conversion is rapid and simple. Opposed to these advantages is the inconvenience of doubling all records expressed in pounds to obtain dollar equivalents.

System (B): The three decimal place alternative can be instantly discarded as slower for mechanical accounting and for daily use. The two decimal place alternative has three disadvantages: (i) sixpence cannot be expressed in this notation; (ii) the new lowest unit is $\frac{1}{5}$ of a shilling (i.e. equivalent to 2.4 pence) and therefore not really low enough in value; (iii) the mental arithmetic of conversion is certainly not as simple as in System (A). The one obvious advantage is that records expressed in pounds need no conversion.

A third system considered was the creation of a new basic unit equal to 100 pence but the principal disadvantage is the need to multiply pounds by 2.4 to convert to the base.

Three countries (Australia, N.Z. and South Africa) have adopted System (A) and used 10 shillings as the base for conversion to \$ (Australia and N.Z.) or rand (South Africa). The United Kingdom is now in the early stages of changing to a decimal currency but it is using System (B); the pound will be retained broken into 100 parts. As might be expected from the table, the lowest decimal unit (0.01) is too large in value (2.4d) and therefore a lower-valued coin (1.2d) will also be used; only even number multiples of this lowest valued unit (0.005) can be expressed in a two decimal place system.

Changeover to Decimal Coinage (Australia)

On 14 February 1966 the following £-s.-d. coins were in circulation: 2s., 1s., 6d., 3d., 1d. and $\frac{1}{2}$ d. On this date, the following new coins were put into circulation: 50 cents (equal to 5s.), 20 cents (2s.), 10 cents (1s.), 5 cents (6d.), 2 cents (2.4d.) and 1 cent (1.2d.). It was provided that coins, both 'new' and 'old', might circulate side by side for a period of two years, the plan being to withdraw 'old' coins through the banks.

Changeover to Decimal Notes (Australia)

Notes in circulation in Australia are issued by the Reserve Bank through the Note Issue Department. The Bank had authority to issue Australian notes in denominations of 5s., 10s., £1, £5, £10 and any multiple of £10. The Reserve Bank is not required to hold a specific reserve in gold against the note issue, but the assets of the Note Issue Department must be held or invested in gold, on deposit with any bank, or in securities of the Government of the U.K., the Commonwealth, or a State. Under the *Reserve Bank Act 1959*, the profits of the Note Issue Department are paid to the Commonwealth.

Australian notes are legal tender to any amount within Australia and have been issued in denominations of 10s., £1, £5, £10, £20, £50, £100, and £1,000. Notes of denominations higher than £10 had not been issued to the public after 1945.

On 14 February 1966, the following notes were in general circulation: 10s., £1, £5 and £10. On this date, the following new notes were put into circulation: \$1 (equal to 10s.), \$2 (£1), \$10 (£5) and \$20 (£10). Although the decimal notes were completely new in design, the colours were arranged to establish at a glance the relationship between new and old (brown \$1; green \$2; blue \$10; red \$20). No issue was made of a \$5 note at this point in time since there was no single note equivalent (£2-10s.) in the £-s-d system; however, a \$5 note, purple in colour, was issued in May 1967. It was provided that notes, both 'old' and 'new', might circulate side by side for a period of two years, the plan being to withdraw 'old' notes through the banks.

Changeover Progress

The changeover to decimal currency, including machine conversion, was accomplished with greater ease than originally expected; so much so, that in June 1967 the Commonwealth Government issued a proclamation under the Federal *Currency Act 1965* bringing to an end the dual-currency interim period. With effect from 1 August, business in Australia was to be solely in \$ currency; this included all contracts and agreements, payments, sales and other monetary transactions. The £-s.-d currency lost its legal standing and contracts made out in £-s.-d currency after 1 August 1967 were not enforceable.

The proclamation did not amend the legal tender provisions, i.e. payment can still be made in coins or notes of the old currency but the transaction must be recorded as if made in \$ currency. Now \$ currency is virtually universal and very few units of the old currency are in circulation.

Overseas Exchange Rates

The next table shows overseas exchange rates. Two quotations, for the sake of uniformity, have been inverted; they are: N.Z. (\$A1.245 for \$N.Z. 1 to 1966-67 and \$A1.002 for \$N.Z. 1 in December 1967); (ii) U.K. (\$A2.51 for £Stg 1 to 1966-67 and \$A2.151 for £Stg 1 in December 1967). Australia changed to dollar currency in 1966 and N.Z. in 1967 so some of the rates are conversions from quotations for £A and £N.Z.

Overseas Exchange Rates (a)

| Country | Basis of Quotation | 1964-65 | 1965-66 | 1966-67 | December 1967 |
|-------------------------|------------------------|---------|---------|---------|---------------|
| New Zealand (b) .. | Dollars to \$A1 (b) | 0.803 | 0.803 | 0.803 | 0.998 |
| United Kingdom (b) .. | Pound Stg to \$A1 (b) | 0.398 | 0.398 | 0.398 | 0.465 |
| Belgium | Francs to \$A1 | 54.88 | 55.07 | 55.10 | 55.50 |
| Canada | Dollars to \$A1 | 1.20 | 1.20 | 1.20 | 1.21 |
| Ceylon | Rupees to \$A1 | 5.27 | 5.27 | 5.27 | 6.59 |
| China (Mainland) (c) .. | New Yuan to \$A1 | 2.74 | 2.74 | 2.74 | 2.74 |
| France | Francs to \$A1 | 5.42 | 5.44 | 5.46 | 5.49 |
| Germany (West) .. | Deutsche Marks to \$A1 | 4.40 | 4.45 | 4.41 | 4.46 |
| Hong Kong | Dollars to \$A1 | 6.35 | 6.37 | 6.37 | 6.75 |
| India | Rupees to \$A1 | 5.28 | 5.47 | 8.33 | 8.33 |
| Italy | Lire to \$A1 | 690.00 | 692.00 | 691.00 | 698.00 |
| Japan | Yen to \$A1 | 399.17 | 401.02 | 400.98 | 405.10 |
| Malaysia | Dollars to \$A1 | 3.399 | 3.399 | 3.399 | 3.399 |
| Netherlands | Guilder to \$A1 | 3.98 | 4.00 | 4.00 | 4.02 |
| Pakistan | Rupees to \$A1 | 5.28 | 5.28 | 5.28 | 5.29 |
| Singapore | Dollars to \$A1 | 3.40 | 3.40 | 3.40 | 3.39 |
| South Africa | Rands to \$A1 | 0.795 | 0.795 | 0.795 | 0.795 |
| Switzerland | Francs to \$A1 | 4.79 | 4.80 | 4.79 | 4.84 |
| U.S.A. | Dollars to \$A1 | 1.11 | 1.11 | 1.11 | 1.12 |
| U.S.S.R. (c) | Roubles to \$A1 | 1.004 | 1.004 | 1.004 | 1.004 |

(a) Average telegraphic transfer selling rates at Sydney.

(b) Usual basis of quotation: (i) \$A to \$N.Z. 1; (ii) \$A to £1 Stg. Value quoted is an inversion.

(c) Rates of exchange used in converting import values to Australian currency for purposes of calculating customs duty.

Types of Bank

Banking in Tasmania

Banks in Tasmania can be classified by ownership as follows: (i) Government—the Reserve Bank of Australia, the Commonwealth Development Bank of Australia, the Commonwealth Trading Bank of Australia, and the Commonwealth Savings Bank; (ii) Private—the private trading banks and the private savings banks; (iii) Trustee—the Hobart and the Launceston Savings Banks. The Agricultural Bank is *not* a bank for the purpose of these statistics.

For statistical purposes, such a classification is not helpful since banks, both government and private, may be engaged in the same type of activity. Hence, the classification in actual use is one which groups banks according to their type of activity, not according to their ownership. The major banking statistics for the State are presented in two distinct series under the following headings: (i) all cheque-paying banks; (ii) all savings banks.

Cheque-Paying Banks

The following institutions in Tasmania are classified as ‘cheque-paying banks’: Commonwealth Trading Bank of Australia; Australia and New Zealand Bank Ltd; Bank of New South Wales; Commercial Bank of Australia Ltd; Commercial Banking Company of Sydney Ltd; English, Scottish and Australian Bank Ltd; and National Bank of Australasia Ltd.

Savings Banks

In the 1950s, only three savings banks operated branches in Tasmania: Hobart Savings Bank, Launceston Savings Bank and Commonwealth Savings Bank. (The trustee savings banks date from early colonial days, that at Launceston opening in 1835, and at Hobart in 1845.) In recent years, private trading banks have opened savings bank subsidiaries in the State, the relevant dates being A.N.Z., September 1959; Bank of N.S.W., September 1961; E. S. & A., October 1961; National, May 1962; Commercial (of Australia), July 1962; Commercial (of Sydney), March 1963. In effect, all those banks which previously operated in Tasmania purely as cheque-paying banks now make available facilities for savings depositors. It follows that there are nine separate enterprises operating branches within the State.

Banking Legislation

Under Section 51 of the Commonwealth Constitution, the Commonwealth Parliament has power to legislate with respect to 'banking, other than State banking; also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money'. The principal Commonwealth Acts at present in force relating to banking are as follows:

The Reserve Bank Act 1959-1965: Provision for the constitution and management of the Reserve Bank of Australia and the management of the Australian note issue. (Central banking functions had previously been vested in the Commonwealth Bank of Australia.)

The Banking Act 1959-1965: Objects are (i) to provide a legal framework uniform throughout Australia for regulating the banking system; (ii) to safeguard depositors of the banks from loss; (iii) to provide for the co-ordination of banking policy under the direction of the Reserve Bank; (iv) to control the volume of credit in circulation and bank interest rates; (v) to mobilise and to provide machinery for the control of foreign exchange and the gold resources of the Australian economy.

The Commonwealth Bank Acts 1959-1965: These Acts created the Commonwealth Banking Corporation as the controlling body for the newly-constituted Commonwealth Trading Bank of Australia, Commonwealth Savings Bank of Australia and Commonwealth Development Bank of Australia. The Corporation and its constituent banks are subject to the same banking controls as are the private trading banks. (The Commonwealth Bank, established in 1911, had performed a number of diverse roles, e.g. as a trading bank, a savings bank and a central bank. The effect of the new legislation was to isolate the individual functions and to constitute a separate establishment for each.)

Transactions of Cheque-Paying Banks

The accompanying table summarises the principal statistics relating to all cheque-paying banks in Tasmania for a five-year period. The following definitions apply:

- (i) Deposits—an item among banks' liabilities. The figure is the average, for the year, of *balances* read at weekly intervals.
- (ii) Loans, Advances and Bills Discounted, etc.—an item among banks' assets. The figure is the average, for the year, of *balances* read at weekly intervals.
- (iii) Debits to Customers' Accounts—in general, mainly the total of all cheques drawn by customers during a given period. The figure is the weekly average of such entries for the year.

**All Cheque-Paying Banks
(Including Commonwealth Trading Bank)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Branches in Tasmania, End of Year | no. 95 | no. 98 | no. 101 | no. 100 | no. 101 |
| Weekly Averages— | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Deposits— | | | | | |
| Commonwealth and State Governments | 510 | 492 | 580 | 754 | 1,719 |
| Other— | | | | | |
| Fixed | 23,074 | 24,046 | 29,483 | 34,970 | 39,427 |
| Current—Interest Bearing | 4,725 | 4,966 | 5,481 | 5,919 | 6,977 |
| Current—Not Bearing Interest | 54,875 | 56,710 | 59,059 | 60,867 | 63,969 |
| Total | 83,184 | 86,214 | 94,603 | 102,507 | 112,091 |
| Loans, Advances and Bills Discounted (a) | 53,186 | 55,106 | 54,124 | 55,214 | 60,460 |
| Debits to Customers' Accounts (b) | 35,068 | 37,062 | 41,340 | 43,105 | 47,103 |

(a) Excludes loans to authorised dealers in the short-term money market.

(b) Excludes debits to Australian Governments' accounts at Hobart branches. In addition to the seven cheque-paying banks' transactions, those of the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank are included in this item.

Fixed Deposit Rates

The next table shows the interest rates received by customers of cheque-paying banks in respect of money lodged on fixed deposit for specified periods:

**Cheque-Paying Banks—Fixed Deposit Rates
(Per Cent Per Annum)**

| Date From Which Operative | Deposits for | | |
|---------------------------|-------------------------------|----------------------------------|--|
| | Three Months and Under Twelve | Twelve Months to Eighteen Months | Over Eighteen Months to Twenty-four Months |
| 17 November 1960 | 4.00 | (a) 4.50 | (a) |
| 1 July 1961 | .. | (a) 4.25 | (a) |
| 13 April 1962 | 3.75 | (a) 4.00 | (a) |
| 1 April 1963 | 3.25 | (b) 3.50 | (b) |
| 8 April 1964 | (c) 3.75 | (b) 4.00 | (b) |
| 29 September 1964 | .. | 4.00 | 4.25 |
| 10 March 1965 | (c) 4.25 | 4.50 | 4.50 |
| 17 August 1966 | (c) 4.00 | 4.25 | .. |
| 27 June 1968 | (c) 4.25 | 4.50 | 4.75 |

(a) The maximum period for fixed deposits was 12 months.

(b) From 10 September 1962, deposits could be accepted for up to 15 months.

(c) From 8 April 1964, fixed deposits exceeding \$100,000 for periods from one to three months could be accepted at the rates shown.

The above rates (as from 27 June 1968) were still in force in December 1968, the maximum overdraft rate being 7.50 per cent.

Transactions of Savings Banks

The following table summarises the principal statistics relating to savings banks in Tasmania. Deposits are compiled on a basis different from that used in the case of cheque-paying banks. 'Deposits lodged' is the total inflow of deposits during the year, and 'depositors' balances' is a single liability reading taken at the end of the year.

All Savings Banks

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|----------------|----------------|----------------|----------------|----------------|
| Number at End of Year— | | | | | |
| Branches in Tasmania .. | no. 135 | no. 141 | no. 147 | no. 147 | no. 148 |
| Operative Accounts .. | 349,676 | 362,999 | 379,243 | 394,664 | 413 |
| Deposits Lodged during Year .. | \$'000 109,688 | \$'000 125,316 | \$'000 142,382 | \$'000 153,444 | \$'000 189,026 |
| Interest Added during Year .. | 3,638 | 3,530 | 4,108 | 4,710 | 5,300 |
| Excess of Deposits over Withdrawals .. | 6,758 | 8,384 | 6,858 | 7,955 | 13,405 |
| Depositors' Balances—End of Year .. | 112,856 | 124,770 | 135,736 | 148,401 | 167,106 |
| Per Head of Population— | \$ | \$ | \$ | \$ | \$ |
| Depositors' Balances—End of Year .. | 313 | 343 | 369 | 400 | 444 |

Savings Bank Interest Rates

The next table shows rates of interest applying to operations of the Hobart Savings Bank, firstly as received by depositors, and secondly, as charged to borrowers with home mortgages.

**Hobart Savings Bank—Interest Rates
(Per Cent Per Annum)**

| Date of Change in Rate | Interest Rate—Maximum Upon Deposits (a) | Mortgage Rate on Advances for Homes | Date of Change in Rate | Interest Rate—Maximum Upon Deposits (a) | Mortgage Rate on Advances for Homes |
|------------------------|---|-------------------------------------|------------------------|---|-------------------------------------|
| 1 March 1956 | 3.00 | 5.00 | 1 Aug. 1962 | .. | 6.00 |
| 1 April 1957 | .. | 5.25 | 1 April 1963 | 3.25 | .. |
| 1 Nov. 1957 | .. | 5.50 | 1 May 1963 | .. | 5.50 |
| 1 Nov. 1958 | 3.25 | .. | 1 June 1964 | 3.50 | .. |
| 1 Jan. 1961 | 3.50 | 5.75 | 1 April 1965 | 3.75 | 5.75 |
| 1 July 1961 | 3.75 | .. | 1 June 1966 | .. | 6.00 |

(a) Deposits held in savings accounts; interest on fixed deposits is as for cheque-paying banks.

On 1 August 1968, both interest rates rose by 0.25 per cent.

Insurance in Tasmania*Definitions*

The data on insurance that follow are divided into two parts: (i) life insurance; (ii) insurance other than life, i.e. fire, marine and general insurance. No distinction is made between insurance and assurance, the former term being used in all contexts.

Legislation

Section 51 of the Commonwealth Constitution confers the necessary powers on the Commonwealth Parliament to legislate with respect to 'insurance

other than State insurance; also State insurance extending beyond the limits of the State concerned'. The principal Commonwealth legislation affecting current insurance business is as follows:

Insurance Act 1932-1960: Insurance businesses are required to lodge a deposit with the Commonwealth Treasurer, interest on the invested deposit being paid to the depositor. Deposits remain as a security against liability to policy holders, and are available to satisfy judgments obtained in respect of policies. The following insurance business is exempted from these provisions: staff superannuation schemes; schemes of religious organisations purely for insurance of their property; friendly society, union and association schemes involving superannuation or insurance benefits to employees. Deposits with a State made prior to the legislation could remain with the State and reduce the amount needed for deposit with the Commonwealth. The passing of the *Life Insurance Act 1945-1965* had the effect of adding life insurance business to the list of activities exempted from the provisions of the *Insurance Act 1932-1960*.

Life Insurance Act 1945-1965: Objects are (i) to replace all State legislation on the subject of life insurance, except that relating to operations of a State insurance office within a specific State, and to provide uniform legislation for the whole of Australia; (ii) to appoint an Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection of policy holders; (iii) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

Life Insurance

Since 1947, returns lodged under the *Life Insurance Act 1945-1965*, have been used to compile life insurance statistics. In Tasmania, the Government Insurance Office does not transact life business so the tables that follow refer to the operations of enterprises exclusively in the private sector. The transactions in the next table are concerned with Tasmania as the State of issue of the policies, not necessarily as the State of risk. The following summarises the principal statistics relating to life insurance business carried on in Tasmania:

Life Insurance Transactions

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| ORDINARY BUSINESS AND SUPERANNUATION BUSINESS (a) | | | | | |
| New Policies Issued— | | | | | |
| Policies .. . (no.) | 14,444 | 15,845 | 14,611 | 14,588 | 16,881 |
| Sum Insured .. .(\$'000) | 55,602 | 64,588 | 65,584 | 71,868 | 81,963 |
| Annual Premiums .. .(\$'000) | 1,363 | 1,474 | 1,633 | 1,815 | 2,044 |
| Policies Discontinued or Reduc-ed— | | | | | |
| Policies .. . (no.) | 11,494 | 12,775 | 13,192 | 11,594 | 11,730 |
| Sum Insured .. .(\$'000) | 25,748 | 30,030 | 30,537 | 31,533 | 34,812 |
| Annual Premiums .. .(\$'000) | 699 | 764 | 815 | 814 | 904 |
| INDUSTRIAL BUSINESS (a) (b) | | | | | |
| New Policies Issued— | | | | | |
| Policies .. . (no.) | 3,272 | 3,538 | 3,077 | 3,058 | 3,418 |
| Sum Insured .. .(\$'000) | 2,464 | 2,794 | 2,682 | 2,800 | 3,570 |
| Annual Premiums .. .(\$'000) | 102 | 106 | 103 | 110 | 139 |
| Policies Discontinued or Reduc-ed— | | | | | |
| Policies .. . (no.) | 7,261 | 6,513 | 6,530 | 6,733 | 5,659 |
| Sum Insured .. .(\$'000) | 1,960 | 2,010 | 1,959 | 2,135 | 2,063 |
| Annual Premiums .. .(\$'000) | 92 | 89 | 91 | 95 | 89 |

Life Insurance Transactions—*continued*

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------------|---------|---------|---------|---------|---------|
| NEW LOANS PAID OVER (c) | | | | | |
| On Mortgage of Real Estate (\$'000) | 2,720 | 3,024 | 3,132 | 3,782 | 2,455 |
| On Companies' Policies (\$'000) | 862 | 922 | 930 | 990 | 1,132 |
| On Other Securities .. (\$'000) | 112 | 4 | 12 | 9 | 408 |
| Total Loans Granted(\$'000) | 3,694 | 3,950 | 4,074 | 4,781 | 3,995 |

(a) Excludes annuities.

(b) Industrial business refers, in the main, to policies on which the premiums are collected as regular instalments by agents on commission.

(c) Excludes advances of premiums.

The next table shows, for Tasmania, the number of policies in force and the amount of the sum insured:

Life Insurance—Policies in Force (a)

| Particulars | 1963 | 1964 | 1965 | r1966 | 1967 |
|--------------------------------------|---------|---------|---------|---------|---------|
| Policies in Force (a) .. (no.) | 214,646 | 213,462 | 213,016 | 213,039 | 217,435 |
| Sum Insured .. (\$'000) | 360,388 | 396,251 | 430,664 | 476,931 | 535,860 |
| Annual Premiums (b) .. (\$'000) | 10,308 | 11,162 | 12,025 | 13,222 | 14,620 |
| Claims, Surrenders, etc. (c)(\$'000) | 4,482 | 5,036 | 5,412 | 6,087 | (c) |

(a) At close of financial years, observed by individual companies, which end within the calendar year shown; 1967 figure is total in December.

(b) Payable on policies in force at close of financial years, observed by individual companies, which end within the calendar year shown; 1967 figure relates to policies in force at December.

(c) During financial years, observed by individual companies, which end within the calendar year shown; 1967 figure not yet available.

r Revised.

Fire, Marine and General Insurance

Definitions: The following definitions apply:

- (i) Premiums represent the full amount receivable in respect of policies issued and renewed in the year, less returns, rebates and bonuses paid or credited to policy-holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year. When business is increasing, as shown in the statistics, premiums receivable are greater than 'earned premium income' appropriate to the year. The converse applies when business is declining.
- (ii) Claims include payments made during year, *plus* estimated amount of outstanding claims at end of year, *less* estimated amount of outstanding claims at beginning of year.
- (iii) Contributions to fire brigades, commission and agents' charges, and expenses of management are those amounts actually paid during the year.
- (iv) Taxation represents payments made during the year, including income tax, pay-roll tax, licence fees, stamp duty (where paid by the Company), etc. Income tax paid during the year is based on the income of earlier years.

The figures relate to selected items of statistics and are not construable as 'Profit and Loss' statements or 'Revenue Accounts'. In cases where the business is underwritten in one State and the risk is situated in another, the business is included in the State in which the policy was issued.

**Fire, Marine and General Insurance
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|-----------|
| Premiums (Less Returns, Rebates and Bonuses) | 11,428 | 12,248 | 13,567 | 14,703 | 15,915 |
| Interest, Dividends, Rents | 162 | 230 | 264 | 309 | 345 |
| Total Revenue | 11,590 | 12,478 | 13,831 | 15,011 | 16,261 |
| Claims (Less Amounts Recoverable) | 5,950 | 6,664 | 7,854 | 9,153 | 16,158 |
| Other Expenditure | 4,412 | 4,610 | 5,185 | 5,331 | (a) 5,914 |
| Total Expenditure .. | 10,362 | 11,274 | 13,039 | 14,484 | 22,071 |

(a) Contribution to Fire Brigades, \$242,051; commission and agents' charges, \$1,760,493; expenses of management, \$3,247,589; taxation, \$663,626.

The effect of the 1967 February fires is reflected in the 1966-67 figures in part; however the reporting companies observe different financial years and '1966-67' in the table refers to returns for financial years which ended at any point within 1966-67. Some companies have financial years ending earlier than 30 June (in a number of cases earlier than February). Accordingly the balance of the effect will appear in 1967-68 figures.

Types of Insurance: The next table shows premiums and claims according to the class of insurance business transacted in 1966-67. ('Premiums' and 'claims' have been compiled in accordance with the definitions introducing the section.)

**Premiums and Claims for Each Type of Insurance, 1966-67
(\$'000)**

| Class of Business | Premiums | Claims | Class of Business | Premiums | Claims |
|--|----------|--------|--------------------------------|----------|--------|
| Fire | 2,754 | 5,284 | Public Risk, Third Party | 258 | 77 |
| Householders' Comprehensive | 1,199 | 2,396 | General Property | 67 | 25 |
| Sprinkler Leakage | 4 | 1 | Plate Glass | 73 | 40 |
| Loss of Profits | 280 | 528 | Boiler | 19 | 3 |
| Hailstone | 143 | 102 | Livestock | 27 | 7 |
| Marine | 625 | 279 | Burglary | 194 | 104 |
| Motor Vehicles | 5,253 | 3,552 | Guarantee | 26 | 14 |
| Motor Cycles | 2 | (a) | 'Pluvius' | 17 | 16 |
| Compulsory Third Party (Road Accidents) .. | 1,424 | 1,407 | Aviation | 36 | 6 |
| Workers' Compensation | 2,701 | 1,969 | All Risks | 90 | 59 |
| Seamen's Compensation (b) .. | | (b) | Television | 4 | 2 |
| Personal Accident | 584 | 222 | Other | 121 | 60 |
| Contractors' All Risks .. | 17 | 2 | Total | 15,915 | 16,158 |

(a) Under \$500.

(b) Not available for publication. Listed in 'Other'.

Ratio of Claims to Gross Premiums: The following table shows, as a percentage, the ratio of claims to premiums for the more important classes of business over a five-year period:

Fire, Marine and General Insurance
Ratio of Claims to Premiums (a)
(Per Cent)

| Class of Business | 1962-63 | 1963-64 | 1964-65 | 1965-66 | (b) 1966-67 |
|---|---------|---------|---------|---------|-------------|
| Fire | 34.0 | 30.6 | 33.1 | 36.4 | 191.9 |
| Householders' Comprehensive | 23.3 | 21.5 | 25.4 | 25.3 | 199.8 |
| Loss of Profits | 33.9 | (c) 1.7 | 31.4 | 35.0 | 188.5 |
| Marine | 60.4 | 66.0 | 41.3 | 44.8 | 44.7 |
| Motor Vehicles (Excluding Motor Cycles) | 64.0 | 72.3 | 68.4 | 62.8 | 67.6 |
| Compulsory Third Party (Road Accidents) | 58.7 | 75.1 | 85.3 | 95.0 | 98.8 |
| Workers' Compensation .. | 52.6 | 49.2 | 53.7 | 59.1 | 72.9 |
| Personal Accident | 45.7 | 48.1 | 44.2 | 45.6 | 38.0 |
| Public Risk, Third Party .. | 20.8 | 38.2 | 67.7 | 42.4 | 30.0 |
| Plate Glass | 48.1 | 50.9 | 57.2 | 56.1 | 55.5 |
| Burglary | 54.1 | 70.7 | 65.2 | 54.7 | 53.7 |
| All Classes | 52.1 | 54.4 | 57.9 | 62.3 | 101.5 |

(a) See beginning of section for definition of claims and premiums.

(b) The fire disaster of 7 February 1967 affected some ratios.

(c) Lower claims experienced and substantial recoveries made during this accounting period.

Instalment Credit for Retail Sales in Tasmania

General

The collection of data on instalment credit transactions began as a series dealing simply with the hire purchase operations of non-retail finance businesses; it was then expanded to cover the hire purchase operations of retail businesses. The final stage in the evolution of the current series was reached when a concept of instalment credit, considerably broader than just hire purchase, was introduced.

Information relating to instalment credit for retail sales in Tasmania is given in the following tables. Monthly and quarterly statistics as well as annual series are prepared from returns collected both from retail businesses and non-retail finance businesses.

The statistics cover operations of all types of instalment credit schemes which relate primarily to the financing of retail sales of goods, whether the credit is advanced by a retail business or by a non-retail finance business. In general, the term 'instalment credit' is defined as relating to schemes in which repayment is made by regular pre-determined instalments. Types of schemes covered include hire purchase, time payment, budget account, and personal loan schemes which relate primarily to financing of retail sales of goods. In these statistics, the term 'retail sales' relates not only to retail sales by retail establishments coming within the scope of the Censuses of Retail Establishments conducted periodically by the Bureau, but includes also other sales of goods to final purchasers (e.g. plant and machinery).

Figures for amounts financed *exclude* interest, hiring charges, insurance, etc. Figures for balances outstanding and collections *include* interest, hiring charges, insurance, etc. Details are not available of these charges or of other items (e.g. rebates allowed for early payment, late payment charges, bad debts written off) which affect the reconciliation of the three main instalment credit series: amounts financed, collections and balances outstanding.

**Instalment Credit for Retail Sales (a)
(Hire Purchase and Other Instalment Credit)**
(\$'000)

| Particulars | r1962-63 | r1963-64 | r1964-65 | r1965-66 | 1966-67 |
|--|----------|----------|----------|----------|---------|
| FINANCED BY RETAIL BUSINESSES | | | | | |
| Amount Financed During Period (b)— | | | | | |
| Motor Vehicles—New (c) .. | 342 | 377 | 363 | 341 | 323 |
| Used (c) .. | 206 | 237 | 207 | 110 | 126 |
| Total Vehicles .. | 548 | 614 | 570 | 451 | 449 |
| Plant and Machinery .. | | | | | |
| Household and Personal Goods .. | 5,850 | 5,341 | 5,104 | 4,759 | 4,759 |
| Total All Goods .. | 6,398 | 5,955 | 5,674 | 5,210 | 5,208 |
| Balances Outstanding at End of Period (d) | 9,732 | 9,253 | 8,531 | 7,669 | 7,072 |
| FINANCED BY NON-RETAIL FINANCE BUSINESSES | | | | | |
| Amount Financed During Period (b)— | | | | | |
| Motor Vehicles—New (c) .. | 6,672 | 7,776 | 8,198 | 8,516 | 8,419 |
| Used (c) .. | 8,858 | 9,580 | 9,268 | 9,499 | 10,538 |
| Total Vehicles .. | 15,530 | 17,356 | 17,466 | 18,015 | 18,957 |
| Plant and Machinery .. | 1,468 | 1,326 | 2,232 | 2,686 | 2,604 |
| Household and Personal Goods .. | 4,830 | 3,751 | 3,956 | 3,633 | 3,780 |
| Total All Goods .. | 21,828 | 22,433 | 23,654 | 24,334 | 25,341 |
| Balances Outstanding at End of Period (d) | 30,754 | 33,048 | 35,722 | 37,495 | 38,777 |
| FINANCED BY ALL BUSINESSES | | | | | |
| Amount Financed During Period (b)— | | | | | |
| Motor Vehicles—New (c) .. | 7,014 | 8,153 | 8,561 | 8,857 | 8,742 |
| Used (c) .. | 9,064 | 9,817 | 9,475 | 9,609 | 10,664 |
| Total Vehicles .. | 16,078 | 17,970 | 18,036 | 18,466 | 19,406 |
| Plant and Machinery .. | | | | | |
| Household and Personal Goods .. | 12,148 | 10,418 | 11,292 | 11,078 | 11,143 |
| Total All Goods .. | 28,226 | 28,388 | 29,328 | 29,544 | 30,549 |
| Balances Outstanding at End of Period (d) | 40,486 | 42,301 | 44,253 | 45,164 | 45,849 |

(a) Includes time payment, budget account and personal loan schemes associated primarily with financing of retail sales of goods.

(b) Excludes hiring charges, interest and insurance.

(c) Includes tractors.

(d) Includes hiring charges, interest and insurance.

r Revised.

Friendly Societies

Scope

The details that follow refer to 'Ordinary' Societies, not to 'Special' Societies. Ordinary Societies are those which provide customary sick and funeral benefits and are subject to actuarial valuation. Special Societies restrict their membership to employees of industrial parent organisations and are not subject to actuarial valuation.

Membership

Friendly Societies were a form of social organisation to help members meet the costs of sickness, burial, etc. at a time when government social services were either meagre or non-existent. Membership reached a maximum (over 20,000 in male lodges) in the pre-depression years but has since steadily declined. From the 1950s, there has been rapid development of various Government-encouraged insurance schemes to protect families against the incidence of costs associated with sickness and hospitalization; such schemes have evolved, in general, outside the framework of the Friendly Society movement.

The principal benefits provided by Friendly Societies include sick pay, medical attendance and medicine, and sums payable on death; the total membership of Friendly Societies in Tasmania is under 6,000 but as certain benefits are granted to members' families as well as to members themselves, this figure must be more than doubled to arrive at an estimate of the number of persons who may receive some direct benefit, even when due allowance is made for young and unmarried members.

The most striking long-term characteristics of Friendly Societies in Tasmania are the decline in their membership and the increase in the average age of members. The following table shows the percentage age distribution since 1920:

Friendly Societies—Percentage Distribution in Each Age Group and Total Membership of Male Lodges

| Particulars | 1920 | 1930 | 1940 | 1950 | 1960 | 1966 |
|-------------|------|------|------|------|------|------|
|-------------|------|------|------|------|------|------|

PROPORTION OF TOTAL MEMBERSHIP IN EACH AGE GROUP

| Age Group (Years)— | 1920 | 1930 | 1940 | 1950 | 1960 | 1966 |
|------------------------|--------|--------|--------|--------|--------|--------|
| 16-19 (per cent) | 7.79 | 6.60 | 2.87 | 1.48 | 0.15 | 0.16 |
| 20-29 (per cent) | 26.42 | 23.08 | 16.87 | 10.29 | 1.89 | 1.14 |
| 30-49 (per cent) | 47.85 | 43.37 | 39.71 | 37.73 | 26.11 | 15.86 |
| 50-69 (per cent) | 16.54 | 23.56 | 32.91 | 38.28 | 47.76 | 53.01 |
| 70 and over (per cent) | 1.40 | 3.39 | 7.64 | 12.22 | 24.09 | 29.83 |
| Total (per cent) | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

TOTAL MEMBERSHIP

| | | | | | | |
|--------------------|--------|--------|--------|--------|-------|-------|
| Male Members (no.) | 20,605 | 22,168 | 18,854 | 14,677 | 7,571 | 5,085 |
|--------------------|--------|--------|--------|--------|-------|-------|

Revenue and Expenditure

The following table shows the net revenue and expenditure of Friendly Societies for the year 1966:

Friendly Societies—Net Revenue and Expenditure, 1966 (a)
(\\$)

| Revenue | | | Expenditure | | |
|---------------------------------|---------|----------------------|------------------------------------|---------|----------------------|
| Particulars | Total | Per Financial Member | Particulars | Total | Per Financial Member |
| Members' Contributions (b) .. | 41,454 | 8.08 | Medical Attendance and Medicine .. | 3,893 | 0.76 |
| Interest, Rent and Dividends .. | 95,809 | 18.68 | Sick Pay .. | 18,695 | 3.65 |
| All Other Income .. | 26,910 | 5.25 | Funeral Benefits .. | 40,370 | 7.87 |
| | | | Administration .. | 26,869 | 5.24 |
| | | | Other .. | 39,075 | 7.62 |
| Total .. | 164,173 | 32.02 | Total .. | 128,902 | 25.14 |

(a) Excludes inter-fund transfers and transfers between districts and lodges.

(b) Includes levies.

In this table, transactions involving Friendly Societies as agents for Hospital or Medical Benefits Insurance Schemes are eliminated.

Accumulated Capital

Accumulated capital of ordinary societies by the end of their financial years falling within the calendar year 1966 amounted to \$1,409,472 and the capital per financial member was \$274.86. The rate of return (interest, dividends and rents) earned by the funds was approximately 6.75 per cent in 1966. The following table shows the growth of the capital of Friendly Societies since 1920, together with the capital per financial member:

Friendly Societies' Accumulated Capital
(\\$)

| Year (a) | Capital | | Year (a) | Capital | |
|------------|---------|----------------------|------------|-----------|----------------------|
| | Total | Per Financial Member | | Total | Per Financial Member |
| 1920 | 549,194 | 26.23 | 1950 | 1,231,486 | 82.41 |
| 1930 | 819,372 | 36.62 | 1960 | 1,390,122 | 182.62 |
| 1940 | 989,328 | 50.91 | 1966 | 1,409,472 | 274.86 |

(a) At close of the financial years, observed by societies, which ended during calendar year shown.

Registered Building Societies

Types of Registered Society

There are two distinct types of building society registered under Tasmanian law, specifically (i) permanent, and (ii) terminating (or co-operative).

Permanent Societies: These societies are both savings and deposit receiving institutions which advance funds for home building against the security of first mortgages. Those who invest by taking shares or by making deposits are in a separate category from those who borrow to build a home—in other words, applicants for loans need not be members of, or depositors with, the society.

The following summarises the transactions of the permanent building societies in Tasmania:

Permanent Building Societies

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| | no. | no. | no. | no. | no. |
| Operative Societies .. . | 5 | 5 | 5 | 4 | 4 |
| Shareholders .. . | 10,372 | 10,927 | 11,751 | (a) | (a) |
| Borrowers .. . | 3,839 | 4,206 | 4,647 | 4,705 | 5,123 |
| | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Advances during Year .. . | 2,834 | 4,758 | 5,640 | 4,323 | 5,338 |
| Redemption of Loans in Year .. . | 1,668 | 2,192 | 2,556 | 2,647 | 3,032 |
| Deposits during Year (b) .. . | 4,720 | 7,068 | 7,113 | 7,800 | 8,910 |
| Deposits withdrawn during Year .. . | 3,771 | 4,791 | 6,031 | 7,014 | 7,527 |
| Liabilities— | | | | | |
| Paid-up Capital and Subscriptions .. . | 4,988 | 5,838 | 6,668 | 7,722 | 9,155 |
| Accumulated Profits, Reserves .. . | 669 | 696 | 771 | 869 | 959 |
| Deposits .. . | 6,037 | 8,314 | 9,396 | 10,168 | 11,550 |
| Other .. . | 280 | 182 | 937 | 756 | 359 |
| Total .. . | 11,974 | 15,030 | 17,772 | 19,514 | 22,024 |
| Assets— | | | | | |
| Advances on Mortgage .. . | 10,871 | 13,425 | 9,489 | 18,157 | 20,463 |
| Other .. . | 1,103 | 1,606 | 1,283 | 1,357 | 1,561 |
| Total .. . | 11,974 | 15,030 | 17,772 | 19,514 | 22,024 |

(a) Not available.

(b) Includes interest credited to depositors' accounts.

Terminating Societies: These societies are those which, by their rules, are to terminate at a fixed date, or when a result specified in their rules is attained. Societies issue members one class of share, and require equated monthly instalments towards share capital from members; when a member borrows to build (and only a member may borrow), he is required to pay additional equated monthly instalments, such addition constituting interest only. The regular instalments in respect of share capital are calculated to amount, with interest, to the nominal amount of the member's shares over the life of the society (say 26 or 30 years). If the member takes out shares with a nominal value of \$6,000, then his borrowing ceiling is set at \$6,000—in other words, the member takes out, in nominal share capital, the amount which he wishes to borrow for home-building. In effect, the member is contributing to a sinking fund for the liquidation of his loan. The terminating societies are termed 'co-operative'.

The next table summarises the transactions of the co-operative housing societies in Tasmania:

Co-operative Housing Societies

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|-------------------------------|---------|---------|---------|---------|---------|
| | no. | no. | no. | no. | no. |
| Operative Societies .. . | 37 | 42 | 49 | 53 | 60 |
| Shareholders .. . | 857 | 1,011 | 1,182 | 1,281 | 1,417 |
| Borrowers .. . | 746 | 868 | 948 | 1,059 | 1,193 |
| | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Advances during Year .. . | 1,238 | 963 | 805 | 1,102 | 1,000 |
| Redemption of Loans .. . | 75 | 92 | 143 | 251 | 271 |
| Advances from Government .. . | 678 | 611 | 378 | 799 | 657 |
| Repayment to Government .. . | 60 | 103 | 130 | 215 | 283 |

Co-operative Housing Societies—*continued*

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------|---------|---------|---------|---------|---------|
| Liabilities— | | | | | |
| Share Subscriptions .. . | 188 | 263 | 342 | 433 | 525 |
| Reserves .. . | 37 | 66 | 98 | 150 | 198 |
| Loans due to Government .. | 2,436 | 2,957 | 3,204 | 3,856 | 4,183 |
| Loans due to Other Lenders (a) | 1,238 | 1,514 | 1,838 | 1,892 | 2,112 |
| Other .. . | 15 | 11 | 20 | (b) 58 | (b) 72 |
| Total .. . | 3,914 | 4,810 | 5,502 | 6,390 | 7,089 |
| Assets— | | | | | |
| Advances on Mortgage .. | 3,818 | 4,703 | 5,364 | 6,201 | 6,930 |
| Other .. . | 95 | 108 | 138 | 189 | 160 |
| Total .. . | 3,914 | 4,810 | 5,502 | 6,390 | 7,089 |

(a) Includes bank overdrafts for day to day running of societies.

(b) Includes accrued interest on loans; such interest was previously included in the two 'Loans' items immediately above.

In the previous table, 'Advances from Government' and 'Loans Due to Government' refer principally to loan money made available under the Commonwealth-State Housing Agreement. Such funds are advanced to the societies through the Agricultural Bank which acts as agent for the Commonwealth Government in this field.

Co-operative Societies

The next table summarises the financial transactions of societies registered under Tasmanian law as co-operative industrial societies; excluded are co-operative credit societies which are dealt with in a subsequent section. The table which summarises their operations uses the term 'operating' to describe transactions concerned with the processing and sale of goods, and 'non-operating' to describe earnings from commissions, discounts, services, etc.

Co-operative Societies

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--------------------------------------|---------|---------|---------|---------|---------|
| | no. | no. | no. | no. | no. |
| Societies .. . | 17 | 15 | 14 | 14 | 15 |
| Members .. . | 4,944 | 4,616 | 4,269 | 4,399 | 5,252 |
| | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Sales .. . | 7,712 | 7,077 | 6,538 | 6,980 | 9,533 |
| <i>Less</i> Cost of Goods .. . | 6,006 | 6,001 | 5,516 | 5,885 | 8,073 |
| Gross Surplus .. . | 1,706 | 1,076 | 1,022 | 1,096 | 1,459 |
| <i>Less</i> Operating Expenses .. . | 1,134 | 506 | 433 | 440 | 770 |
| Operating Surplus .. . | 572 | 570 | 589 | 656 | 689 |
| <i>Add</i> Non-Operating Receipts .. | 662 | 836 | 906 | 907 | 1,066 |
| <i>Less</i> Non-Operating Expenses— | | | | | |
| Interest .. . | 110 | 88 | 92 | 104 | 116 |
| Salaries, Administra-tion, etc. .. . | 366 | 340 | 334 | 353 | 282 |
| Other .. . | 723 | 893 | 888 | 922 | 1,060 |
| Net Surplus .. . | 35 | 85 | 181 | 184 | 298 |
| Dividends Paid .. . | 11 | 85 | 47 | 44 | 52 |

The next table gives a statement of the assets and liabilities of the co-operative societies:

**Co-operative Societies—Assets and Liabilities
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|------------------------------|---------|---------|---------|---------|---------|
| Assets (End of Period)— | | | | | |
| Fixed | 1,568 | 1,389 | 1,410 | 1,541 | 1,957 |
| Current | 2,986 | 2,802 | 2,962 | 3,376 | 3,903 |
| Total Assets | 4,553 | 4,191 | 4,371 | 4,917 | 5,860 |
| Liabilities (End of Period)— | | | | | |
| Paid-up Capital | 1,262 | 1,129 | 1,107 | 1,119 | 1,196 |
| Accumulated Profits | 165 | 147 | 306 | 458 | 522 |
| Reserve Funds | 124 | 163 | 167 | 352 | 427 |
| Other Liabilities | 3,002 | 2,752 | 2,791 | 2,988 | 3,715 |
| Total Liabilities | 4,553 | 4,191 | 4,371 | 4,917 | 5,860 |

Description

Co-operative Credit Societies

The co-operative credit societies are commonly referred to as 'credit unions' and are registered under the *Co-operative Industrial Societies Act 1928* as amended. In Tasmania, most credit unions have been established by trade unions (e.g. those serving teachers, State and Commonwealth public servants, hospital employees, etc.) and by members of church groups. Members contribute capital by taking out shares and making deposits; loans are made to members, repayment being by regular instalments.

Transactions

The following table shows the societies' annual transactions and also their assets and liabilities:

Co-operative Credit Societies

| Particulars | r1962-63 | r1963-64 | r1964-65 | r1965-66 | 1966-67 |
|--|----------|----------|----------|----------|---------|
| Societies | no. | no. | no. | no. | no. |
| Shareholders | 8 | 12 | 13 | 13 | 16 |
| Shares | 1,740 | 2,715 | 3,631 | 4,622 | 5,738 |
| | 12,248 | 16,559 | 21,889 | 24,502 | 28,042 |
| Advances Made | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Repayments (incl. Interest) | 306 | 598 | 1,026 | 1,068 | 1,520 |
| Deposits Lodged (a) | 208 | 358 | 703 | 866 | 1,177 |
| Deposits Withdrawn | 252 | 452 | 767 | 994 | 1,488 |
| | 114 | 180 | 409 | 660 | 986 |
| Assets (At End of Period)— | | | | | |
| Loans to Members | 310 | 587 | 983 | 1,290 | 1,891 |
| Other | 43 | 57 | 45 | 124 | 200 |
| Total Assets | 353 | 644 | 1,028 | 1,414 | 2,091 |
| Liabilities (At End of Period)— | | | | | |
| Paid-up Capital and Subscriptions | 19 | 25 | 30 | 40 | 49 |
| Deposits | 311 | 582 | 941 | 1,274 | 1,775 |
| Other | 23 | 37 | 57 | 100 | 267 |
| Total Liabilities | 353 | 644 | 1,028 | 1,414 | 2,091 |

(a) Includes interest credited.

r Revised.

Pensions and Superannuation Schemes

Private Schemes

Surveys on an Australia-wide basis have revealed superannuation and/or retiring allowance schemes for employees in the private sector as follows: (i) schemes operated through life insurance offices, friendly societies and other organisations such as unit trusts; (ii) superannuation, pension and retiring allowance funds constituted by businesses; (iii) direct payments of pensions and/or retiring allowances by the employer.

Because of the restricted nature of the surveys, details are not available on a State basis. Australian totals, however, revealed that businesses whose monthly pay-roll exceeded \$1,720 in 1962-63, had 242,000 employees covered by schemes operated through life insurance offices, and 297,000 employees covered by superannuation, pension and retiring allowance funds. Only one per cent of businesses surveyed in that year made direct pension or retiring allowance payments and no information is available on the number of persons covered by such schemes. It was also found that 52 per cent of all businesses operated pension or retiring allowance schemes of one or more of the types described in the previous paragraph.

Government, Local Government and Semi-Government Schemes

The levels of government operating in Tasmania are: (i) Commonwealth; (ii) State; (iii) Local; (iv) Semi-government authority. In the section that follows, any pension or superannuation scheme affecting employees of the Commonwealth Government or its instrumentalities is excluded; the principal fund so excluded is the Commonwealth Superannuation Fund for which State details are not available.

The inclusion of government superannuation and pension schemes as part of 'Private Finance' derives its logic from the fact that the funds involved do not belong to any government but are actually trust moneys held on behalf of contributors. Employees of the State Government contribute to separately constituted funds to which the State Government also makes contributions. Employees of local government and semi-government authorities are covered either by separately constituted funds or through schemes operated through life insurance offices.

The first pension and gratuity scheme for State public servants, introduced in 1860, was non-contributory and short-lived, being repealed in 1863. A contributory provident fund was established in 1900 under the *Civil Service Act* but this scheme was also short-lived and made way for a contributory but State-subsidised scheme established under the *Public Service Superannuation Fund Act 1905*; a year before, a distinct fund had been established with similar principles to serve the teaching service. The *Superannuation Act 1938* established a new fund to serve both public servants and teachers but pensions continued to be paid from the two funds established in 1904 and 1905 respectively; it was not until 1 July 1968 that the residual assets and pension liabilities of these older funds were transferred to the State Superannuation Fund Board. The assets transferred from the 1904 teachers' fund were \$52,990 and from the 1905 public servants' fund, \$17,103.

Separately Constituted Funds: In the table that follows, the operations of the following schemes have been combined and summarised: (i) State Superannuation Fund; (ii) State Teachers' Superannuation Fund; (iii) Police Provident Fund; (iv) Metropolitan Transport Trust—Retiring Allowance and Staff Pension Funds; (v) Marine Boards' independent schemes; (vi) University of Tasmania—Staff Superannuation, Invalidity Pension and Supplementary Pension Schemes.

Government, Local Government and Semi-Government Pension and Superannuation Schemes Operated Through Separately Constituted Funds

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|
| Income— | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Contributions— | | | | | |
| Employees | 1,281 | 1,461 | 1,418 | 1,481 | 1,582 |
| Employing Authorities .. | 1,182 | 1,278 | 1,474 | 1,597 | 1,694 |
| Interest, Dividends and Rent | 769 | 867 | 958 | 1,072 | 1,177 |
| Other Income | 184 | 32 | 56 | 21 | 361 |
| Total | 3,416 | 3,639 | 3,906 | 4,172 | 4,815 |
| Expenditure— | | | | | |
| Pensions | 1,293 | 1,423 | 1,611 | 1,946 | 2,008 |
| Lump Sum Payments— | | | | | |
| On Retirement | 103 | 115 | 81 | 125 | 122 |
| On Resignation | 229 | 281 | 299 | 384 | 350 |
| Other Expenditure | 11 | 14 | 13 | 19 | 52 |
| Total | 1,635 | 1,832 | 2,004 | 2,473 | 2,532 |
| Total Assets (At End of Period) | 15,320 | 16,789 | 18,680 | 20,384 | 22,736 |
| Contributors (At End of Period) | no. 10,322 | no. 10,701 | no. 10,914 | no. 11,393 | no. 11,963 |

State Superannuation Fund: In the previous table, the principal fund included is the State Superannuation Fund to which contribute all permanent full-time employees of the Public Service, Teaching Service, Transport Commission, Hydro-Electric Commission and all hospitals subsidised by the State Government. (The Teachers' Superannuation Fund is now almost wound up and teachers contribute to the State Superannuation Fund.) At 30 June 1966 there were 10,238 contributors to the State Superannuation Fund, the number of pensioners being 2,346. At 30 June 1967, the corresponding figures were 10,651 contributors and 2,458 pensioners. Assets of the State Superannuation Fund exceeded \$18,000,000 at 30 June 1967.

Police Provident Fund: The Police Provident Fund, also included in the previous table, had assets exceeding \$2,000,000 at 30 June 1967. This is now a *closed fund*. By an amendment of the *Superannuation Act 1938* made in 1963, it was provided that police officers appointed after 31 December 1963 were required to become contributors to the State Superannuation Fund. Police officers appointed prior to 1 January 1964 could continue as contributors to the Police Provident Fund or exercise an option, prior to 1 April 1964, to become contributors to the State Superannuation Fund.

Schemes Operated Through Life Insurance Offices: A number of local government and semi-government authorities in Tasmania operate pension and superannuation schemes for their employees, not through separately constituted funds, but through life insurance offices. The next table combines and summarises the operations of such schemes, the following being the main authorities concerned: (i) Semi-government—marine boards, fire brigades, Metropolitan Transport Trust (Launceston and Burnie), University of Tasmania, ambulances, Society for Blind and Deaf, Museum and Art Gallery, Botanical Gardens; (ii) Local Government—the cities and municipalities. It will be observed that some authorities e.g. University, Metropolitan Transport Trust, etc. operate schemes on both bases, i.e. some through separately constituted funds, and others through life insurance offices.

Local and Semi-Government Pension and Superannuation Schemes Operated Through Life Insurance Offices

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|--------------|--------------|--------------|----------------|--------------|
| Income— | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Contributions— | | | | | |
| Employees | 183 | 216 | 238 | 227 | 302 |
| Employing Authorities | 243 | 303 | 339 | 356 | 449 |
| Surrenders | 50 | 57 | 70 | 64 | 127 |
| Death Claims | 28 | 27 | 41 | 23 | 34 |
| Matured Policies | 49 | 61 | 48 | 35 | 77 |
| Other Income | 22 | 31 | 32 | 31 | 5 |
| Total | 575 | 695 | 768 | 736 | 993 |
| Expenditure— | | | | | |
| Premiums paid to Insurance Companies | 367 | 448 | 514 | 521 | 750 |
| Benefits— | | | | | |
| On Death or Retirement | 61 | 114 | 116 | 76 | 118 |
| On Resignation or Dismissal | 48 | 54 | 75 | 64 | 114 |
| Other Expenditure | 7 | 7 | 13 | 12 | 9 |
| Total | 483 | 623 | 718 | 673 | 992 |
| Contributors (At End of Period) | no. 1,495 | no. 1,766 | no. 1,825 | r no. 2,082 | no. 2,104 |

r Revised.

Miners' Pension Fund

The Fund was established to provide for pensions to miners upon retirement or when incapacitated by injury, etc. and, in certain circumstances, to widows and dependants. Contributions to the fund are made by the State Government, mine owners and miners. Details are as follows:

Miners' Pension Fund

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|------------------------------------|------------|------------|-----------|-----------|-----------|
| Income— | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| Contributions— | | | | | |
| Employees | 8 | 5 | 4 | 2 | 2 |
| State Government | 24 | 30 | 30 | 30 | 30 |
| Mine Owners | 24 | 19 | 14 | 9 | 8 |
| Interest, Dividends and Rent | 16 | 16 | 15 | 14 | 12 |
| Other Income | 1 | .. | 1 | .. | .. |
| Total | 73 | 70 | 64 | 55 | 53 |
| Expenditure— | | | | | |
| Pensions | 74 | 72 | 73 | 71 | 71 |
| Lump Sum Payments | .. | 19 | .. | .. | .. |
| Other Expenditure | 7 | 2 | 11 | 5 | 3 |
| Total | 81 | 93 | 84 | 76 | 74 |
| Assets (At End of Period) | 309 | 292 | 270 | 243 | 222 |
| Contributors (At End of Period) | no. 160 | no. 110 | no. 55 | no. 61 | no. 52 |

Until 1962-63, the State Government contributed an amount to match that of the mine owners, the employers' share being related to coal production. After actuarial investigation, it was decided to strengthen the Fund and an amount of \$30,000 was stipulated in amending legislation as the Government's maximum annual contribution. The maximum has since been paid.

The Parliamentary Pension and Superannuation Scheme

The Tasmanian Parliament, in common with the parliaments of the other States and the Commonwealth, operates a superannuation scheme for the benefit of members who retire or are defeated after having served a minimum qualifying period. Basic rate pensions for Tasmanian members are payable after 15 years' service, lesser rate pensions being calculated pro-rata to length of service expressed as a fraction of 15 years; if the fraction is less than 8/15 (i.e. service less than eight years) then the member merely receives a refund of his contributions. The basic rate of full pension was the Hobart basic wage (as varied from time to time), but a member, by increasing his subscription from \$312 per annum to \$624, might contract to receive double the basic rate; provision also existed for subscription scales yielding $1\frac{1}{3}$ and $1\frac{2}{3}$ of the Hobart basic wage.

The abolition of the basic wage in June 1967 by the Commonwealth Conciliation and Arbitration Commission was not allowed to interfere with the scheme just described; the Tasmanian Parliament met this situation by making an Act to define what the basic wage should be for 1967-68 in any interpretation of the *Parliamentary Retiring Allowances Act*. In 1968, the Act was further amended to substitute a new formula for basic rate calculations. The formula is \$12.50 weekly plus 34.5 per cent of Australian average weekly earnings per employed male unit in each year ended March (as revealed by pay-roll tax returns). The formula, when applied in 1968, gave a close approximation to the basic wage current in State Wages Boards' determinations (\$34.40); the basic rate, calculated in this way, replaces the basic wage specified in the original Act.

The Parliamentary Salaries Tribunal, reporting in 1967, said 'members generally seem satisfied with the present provisions of the Act. There is, however, one matter on which practically all are agreed. That is where a member is defeated in his electorate before the effluxion of time for him to qualify for a pension, the amount he has contributed to the fund, instead of being returned to him *simpliciter*, should have added to it an amount equal to savings bank interest on the amounts from time to time standing to his credit in the fund. But should he be re-elected to Parliament, he should refund the total amount paid to him on his defeat'. The Tribunal made no recommendation but simply drew attention to this opinion.

Transactions of the fund (Parliamentary Retiring Allowances Trust) are shown in the following table:

**State Parliamentary Pension and Superannuation Scheme
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|-----------|-----------|-----------|-----------|-----------|
| Income— | | | | | |
| Members' Contribution (a) .. | 33 | 33 | 34 | 35 | 37 |
| Government Contribution .. | 3 | 4 | 3 | 3 | 3 |
| Interest | 2 | 3 | 4 | 4 | 3 |
| Total | 38 | 40 | 41 | 41 | 43 |
| Expenditure—Pension Payments | | | | | |
| (b) | 25 | 35 | 44 | 45 | 48 |
| Total Assets (At End of Period) | 64 | 72 | 69 | 63 | 54 |

(a) Number of contributors throughout period, 54 (House of Assembly, 35; Legislative Council, 19). Contribution for basic rate pension compulsory.

(b) Number of pensioners at 30 June 1967: ex-members, 15; widow's of ex-members, 6.

The fund and scheme just described is administered by a trust, consisting of the President of the Legislative Council, the Speaker of the House of Assembly and the Under Treasurer, all *ex officio*; the trust has the power to appoint its own secretary and has chosen for this office the manager of the Treasury's Superannuation Branch.

For the ordinary member, the scheme is purely contributory and is not State-subsidised; however provision exists for the payment of an additional pension at the rate of \$3,000 yearly to any person who has held the office of premier for not less than 15 years, this amount to be recouped from Consolidated Revenue (a premier with this qualification retired in 1958).

Chapter 12

TRADE, TRANSPORT AND COMMUNICATIONS

OVERSEAS AND INTERSTATE TRADE

Historical

The *Statistical Returns of Van Diemen's Land, From 1824 to 1839* contain an import-export table for the period 1824-1838; the following is an extract:

**'Value of Imports into, and Exports from, Van Diemen's Land
During the Years 1824 and 1825'**
(£) (a)

| Country | Imports | | Exports | |
|---------------------------|---------|--------|---------|--------|
| | 1824 | 1825 | 1824 | 1825 |
| Great Britain | 50,000 | 59,935 | 10,000 | 9,224 |
| British Colonies | 10,000 | 18,416 | 4,500 | 14,613 |
| Foreign States | 2,000 | 9,810 | .. | .. |
| Total | 62,000 | 88,161 | 14,500 | 23,837 |

(a) Unit is sterling currency.

There is, in fact, a continuous series of total trade statistics dating from 1824 to 1909. Until the foundation of the Commonwealth in 1901, trade with other parts of Australia was recorded as originating from or being destined for 'British Colonies'; in other words, all Tasmanian sea trade was regarded as overseas. From Federation to 1909, statistics were collected and compiled by the newly formed Commonwealth Customs Department for *all* sea trade, but since 1910 only direct *overseas* trade has been recorded by the Customs. In an island State, it became apparent that statistics of overseas trade alone were inadequate to record economic activity and, from 1922-23, the Government Statistician collected and published details of interstate trade; the collection of these data, now undertaken by the State Office of the Bureau of Census and Statistics, is carried out independently of the Customs Department and depends primarily on documents made available by Tasmanian Marine Boards and Harbour Trusts. In brief, there is a *total* trade series (1824-1909), an *overseas* trade series (1910 to 1921-22) and a *total* trade series (1922-23 to today).

In the immediate post-war period, there was a marked expansion of commercial aviation; the freight being carried was a component of interstate trade and steps were taken to record it, the first published figures appearing for 1949-50. Thus, the total trade of Tasmania is now recorded in three sections: (1) By Sea, Overseas; (2) By Sea, Interstate; (3) By Air, Interstate.

Value of Trade from 1824

Due to considerable and persistent changes in the purchasing power of money, it is extremely difficult to satisfactorily interpret any long-term statistical series expressed in money terms. The following table is therefore of

interest historically but subject to all the disabilities associated with long-term money series (including devaluations of Australian currency in 1930 and 1949):

**Total Value of Trade by Sea and Air—Historical Summary
(\$'000)**

| Year | Value of Imports | | | | | Value of Exports | | | | |
|---------|------------------|------------|------------|------------|--------|------------------|------------|------------|------------|---------|
| | By Sea | | By Air | | Total | By Sea | | By Air | | Total |
| | Overseas | Interstate | Interstate | Interstate | | Overseas | Interstate | Interstate | Interstate | |
| 1824 .. | (a) | (a) | .. | 124 | (a) | (a) | .. | .. | .. | 30 |
| 1860 .. | 1,686 | 450 | .. | 2,136 | 1,544 | 380 | .. | .. | .. | 1,924 |
| 1880 .. | 738 | 2,000 | .. | 2,738 | 1,568 | 1,456 | .. | .. | .. | 3,024 |
| 1900 .. | 1,402 | 2,746 | .. | 4,148 | 3,078 | 2,144 | .. | .. | .. | 5,222 |
| 1910 .. | 1,662 | (b) | .. | (a) | 1,040 | (b) | .. | .. | .. | (a) |
| 1919-20 | 1,626 | (b) | .. | (a) | 4,022 | (b) | .. | .. | .. | (a) |
| 1929-30 | 3,668 | 16,028 | .. | 19,696 | 4,978 | 13,198 | .. | .. | .. | 18,176 |
| 1939-40 | 3,188 | 21,780 | .. | 24,968 | 4,852 | 20,954 | .. | .. | .. | 25,806 |
| 1949-50 | 18,704 | 51,218 | (c) 10,670 | 80,592 | 29,936 | 42,672 | (c) 3,996 | .. | .. | 76,604 |
| 1959-60 | 27,606 | 130,014 | 19,210 | 176,830 | 47,730 | 137,530 | 20,818 | .. | .. | 206,078 |
| 1966-67 | 51,376 | 209,456 | 20,311 | 281,143 | 88,834 | 224,975 | 25,680 | .. | .. | 339,490 |

(a) Not available.

(b) Collection discontinued for period 1910 to 1921-22.

(c) First collected in 1949-50.

Note on Currency

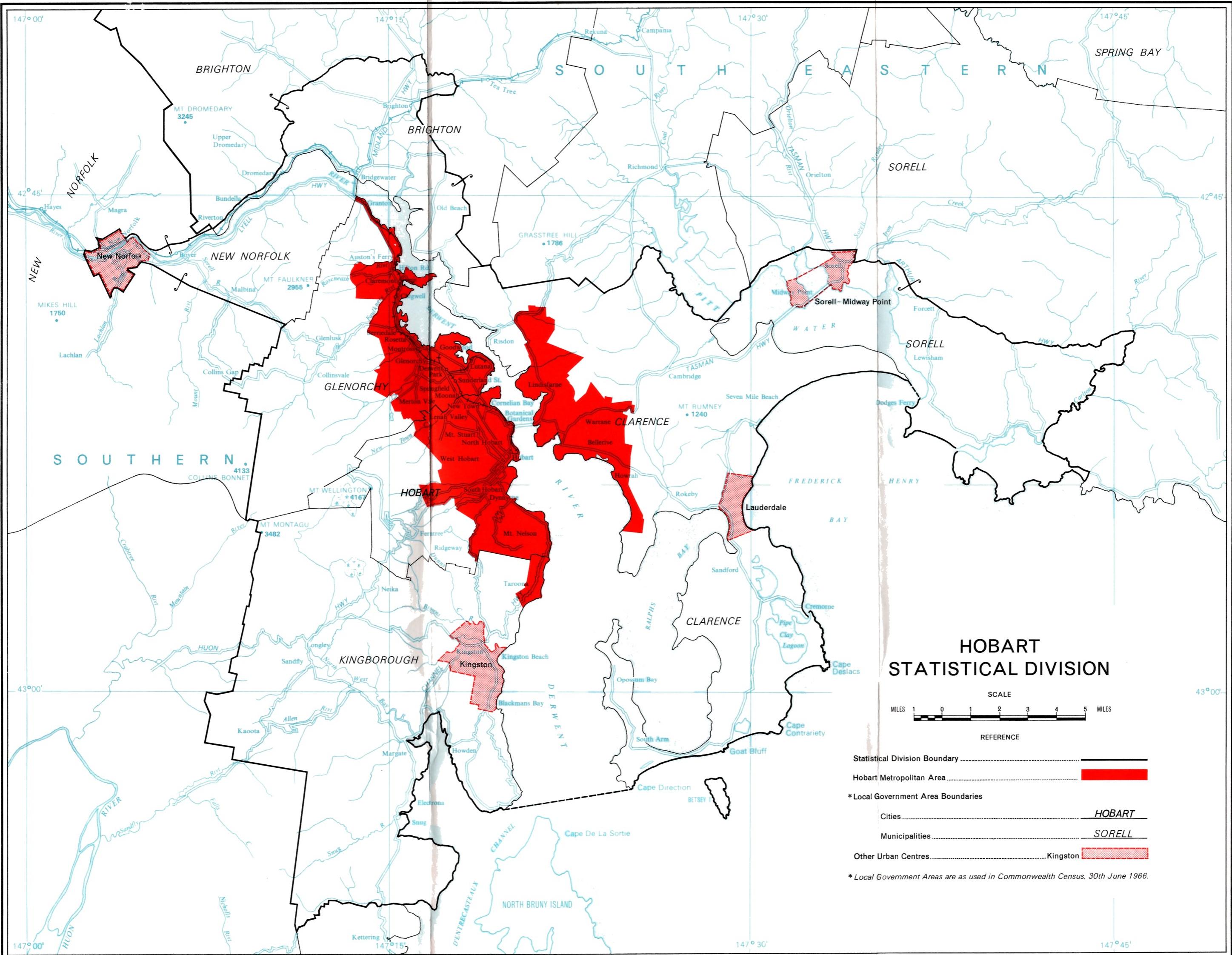
The pre-Federation details were recorded in sterling; subsequent details were recorded in £A which had parity with sterling until 1930 when devaluation made £A1.25 equal to the £ sterling. In 1949, the £ sterling was devalued by 30.5 per cent and the £A was correspondingly devalued to preserve the 1930-1949 relativity. In 1966, Australia changed to dollar currency, with \$A equal to £A0.5. In late 1967, the £ sterling was devalued from an equivalency of \$A2.51 to \$A2.151. In the tables in this section, recorded figures have been converted to \$A by simply doubling the originals, *irrespective of their year of occurrence* and no account has been taken of changes in exchange rates.

Definition of Overseas and Interstate

Tasmanian goods destined for other countries may pass from Tasmanian ports direct or by transhipment through other Australian ports. Similarly, overseas goods may reach Tasmania direct or by transhipment through other Australian ports. The following sets out the classifications used:

Classification of Imports and Exports

| Particulars | Route of Goods to and from Other Countries | Classification of Transaction | Classification by Place of Origin or Destination |
|----------------------|--|-------------------------------|--|
| Tasmanian Exports .. | (1) Shipped Direct from Tasmanian ports | Overseas | Country of Destination |
| | (2) Discharged in other Australian ports before shipment overseas | Interstate | Australian State where discharged |
| Tasmanian Imports .. | (1) Shipped Direct to Tasmanian Ports | Overseas | Country of Origin |
| | (2) Discharged in other Australian ports before shipment to Tasmania | Interstate | Australian State from which shipment made |



* Local Government Areas are as used in Commonwealth Census, 30th June 1966.

By way of example, a new Japanese car transhipped in Melbourne and discharged in Tasmania is classified as an item of interstate trade and Victoria, not Japan, is classified as the place of origin. (Victorian overseas imports will include the entry of the vehicle from Japan.)

Effect of Motor Vehicles on Total Value of Imports and Exports

Import and export details of motor cars and commercial vehicles include tourists' vehicles entering and leaving the State. The inauguration of the vehicular ferry service by the *Princess of Tasmania* in October 1959 resulted in a sharp increase in the transport of vehicles as suggested in the following table:

**Motor Cars and Commercial Vehicles (a)—Value of Imports and Exports
(\$'000)**

| Particulars | 1958-59 | 1959-60 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------|---------|---------|---------|---------|---------|---------|
| Imports | 19,258 | 29,148 | 39,496 | 38,699 | 42,179 | 45,014 |
| Exports | 3,654 | 13,100 | 17,050 | 18,299 | 19,753 | 19,265 |

(a) As well as new and used vehicles, includes business and tourists' vehicles moving to and from the State.

Since Tasmanians do not carry out motor vehicle assembly on any extensive scale (and certainly not for export), it follows that total import and export values for 1966-67 are both inflated by approximately \$19 million worth of vehicles, principally tourist, which entered and left the State. If vehicle exports are offset against imports, the net import figure will still include some used as well as new vehicles.

Source of Trade Statistics

Overseas trade statistics are compiled from documents obtained under the Federal *Customs Act* 1901-1968 and are supplied to the Commonwealth Bureau of Census and Statistics by the Department of Customs and Excise. *Interstate sea* trade statistics are compiled from trade warrants required under the authority of the *Marine Act* 1921 and made available to the Tasmanian branch of the Bureau by the various Marine Boards and Harbour Trusts. Statistics of *inter-state air* trade are compiled from returns furnished direct to the Tasmanian Office of the Bureau by all those who use this medium for the transportation of goods in commercial or industrial operations.

Values

The cost of importing goods into any country will theoretically contain four elements:

- (1) The 'original' price at door of factory, warehouse, etc.
- (2) The cost of delivering goods to the ship 'free on board'.
- (3) Sea freight and associated charges between ports.
- (4) Delivery cost from port to buyer.

Trade statistics base values on the first two elements but exclude the third and fourth, as set out in the following definitions:

The basis of value for overseas imports is 'transaction value, actual (*f.o.b.*)' or 'domestic value (*f.o.b.*)' if higher. Overseas exports are valued *f.o.b.* at the Australian port of shipment as follows: (i) for goods sold before export—the price at which the goods were sold, or (ii) for goods shipped on consignment—the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods were despatched. Interstate imports and exports are valued *f.o.b.* at the port of shipment.

Tasmanian Ports

Although there are nine port authorities (known as marine boards or harbour trusts) in Tasmania, overseas trade is restricted to the ports of Hobart, Launceston, Burnie and Devonport. (In April 1968, overseas exports commenced from Port Latta which lies in an area under the jurisdiction of Circular Head Marine Board.) The names of ports in subsequent tables refer to the towns in which the controlling marine boards are located. Thus 'Hobart' includes Port Huon; 'Launceston' includes Bell Bay and Beauty Point, etc.

Total Trade of Tasmania

The following table shows Tasmanian total trade and its components in recent years:

| Year | Total Trade (\$'000) | | | | | | | |
|---------|-------------------------|------------|------------|---------------|----------|------------|------------|---------------|
| | Imports | | | Exports | | | | |
| | By Sea | | By Air | Total Imports | By Sea | | By Air | Total Exports |
| | Overseas | Interstate | Interstate | | Overseas | Interstate | Interstate | |
| 1956-57 | 27,764 | 105,788 | 20,020 | 153,572 | 45,004 | 108,654 | 18,112 | 171,770 |
| 1957-58 | 25,466 | 113,636 | 19,122 | 158,224 | 44,506 | 109,652 | 18,354 | 172,512 |
| 1958-59 | 26,374 | 121,138 | 19,718 | 167,230 | 43,932 | 114,424 | 17,584 | 175,940 |
| 1959-60 | 27,606 | 130,014 | 19,210 | 176,830 | 47,730 | 137,530 | 20,818 | 206,078 |
| 1960-61 | 37,208 | 141,086 | 19,356 | 197,650 | 42,588 | 143,036 | 21,944 | 207,568 |
| 1961-62 | 26,788 | 141,776 | 18,000 | 186,564 | 57,196 | 140,794 | 23,298 | 221,288 |
| 1962-63 | 35,746 | 150,620 | 18,158 | 204,524 | 66,792 | 146,454 | 21,602 | 234,848 |
| 1963-64 | 35,032 | 167,964 | 19,840 | 222,836 | 78,318 | 173,590 | 23,424 | 275,332 |
| 1964-65 | 35,717 | 170,963 | 20,819 | 227,499 | 87,315 | 193,371 | 25,770 | 306,456 |
| 1965-66 | 43,585 | 192,732 | 21,123 | 257,441 | 92,007 | 212,785 | 25,575 | 330,367 |
| 1966-67 | 51,376 | 209,456 | 20,311 | 281,143 | 88,834 | 224,975 | 25,680 | 339,490 |

It will be observed that interstate trade is the major element both in imports and exports. The next table shows the balance of trade (excess of exports over imports):

Balance of Trade (Sea and Air)

| Year | Balance of Trade (Excess of Exports) | | Year | Balance of Trade (Excess of Exports) | |
|---------------|--------------------------------------|----------------------------------|------------|--------------------------------------|----------------------------------|
| | Total (\$'000) | Per Head of Mean Population (\$) | | Total (\$'000) | Per Head of Mean Population (\$) |
| | .. | .. | | .. | .. |
| 1955-56 | 14,342 | 45.06 | 1961-62 .. | 34,724 | r 98.32 |
| 1956-57 | 18,198 | 56.05 | 1962-63 .. | 30,324 | r 84.66 |
| 1957-58 | 14,288 | 43.03 | 1963-64 .. | 52,496 | r 144.71 |
| 1958-59 | 8,710 | 25.72 | 1964-65 .. | 78,957 | r 215.51 |
| 1959-60 | 29,248 | 85.00 | 1965-66 .. | 72,926 | r 197.31 |
| 1960-61 | 9,918 | 28.33 | 1966-67 .. | 58,347 | 156.04 |

r Revised.

Overseas Trade by Sea

From the earliest days, the United Kingdom was Tasmania's main overseas market and source of overseas imports; even today, the United Kingdom is the principal country in the State's overseas trade. In the last decade, however, trade with foreign countries has begun to assume greater importance, as shown in the following table:

**Total Value of Trade by Sea With Overseas Countries
(\$'000)**

| Year | Value of Imports From— | | | | Value of Exports To— | | | |
|---------|------------------------|--------------------------|-------|--------------------------|----------------------|--------------------------|--------|--------------------------|
| | United Kingdom | United States of America | Japan | Other Overseas Countries | United Kingdom | United States of America | Japan | Other Overseas Countries |
| 1956-57 | 11,368 | 2,498 | 416 | 13,482 | 17,780 | 5,871 | 2,018 | 19,335 |
| 1957-58 | 10,779 | 1,638 | 532 | 12,517 | 18,688 | 3,988 | 2,796 | 19,034 |
| 1958-59 | 8,686 | 1,626 | 512 | 15,550 | 20,090 | 4,018 | 2,102 | 17,722 |
| 1959-60 | 8,272 | 2,520 | 382 | 16,432 | 19,880 | 4,106 | 2,694 | 21,050 |
| 1960-61 | 12,960 | 4,252 | 1,150 | 18,846 | 14,422 | 3,850 | 3,344 | 20,972 |
| 1961-62 | 8,998 | 2,548 | 784 | 14,458 | 20,536 | 5,600 | 4,372 | 26,688 |
| 1962-63 | 8,840 | 5,708 | 1,604 | 19,594 | 22,590 | 6,910 | 3,968 | 33,324 |
| 1963-64 | 7,738 | 5,932 | 2,770 | 18,592 | 25,816 | 8,498 | 4,786 | 39,218 |
| 1964-65 | 7,777 | 7,954 | 3,593 | 16,393 | 30,872 | 12,707 | 4,760 | 38,976 |
| 1965-66 | 9,935 | 8,014 | 5,673 | 19,963 | 26,067 | 14,398 | 7,970 | 43,572 |
| 1966-67 | 8,886 | 10,735 | 7,385 | 24,370 | 20,913 | 15,737 | 10,291 | 41,893 |

Principal Overseas Exports

Certain Tasmanian commodities are of great importance in the State's overseas trade. Examples are given below:

**Tasmanian Overseas Exports of Selected Commodities
(\$'000)**

| Country of Consignment | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| APPLES (FRESH OR PRESERVED BY COLD PROCESS) | | | | | |
| Denmark | .. | 12 | .. | 14 | 354 |
| Finland | 102 | 98 | 103 | 259 | 141 |
| Germany, West | 3,878 | 4,812 | 2,564 | 5,367 | 1,936 |
| Hong Kong | 470 | 396 | 558 | 441 | 300 |
| Ireland | 58 | 132 | 86 | 189 | 84 |
| Malaysia | 368 | 440 | (a) 444 | (a) 249 | 99 |
| Philippines | 204 | 214 | 218 | 260 | 281 |
| Singapore | 294 | 322 | (a) 242 | (a) 242 | 588 |
| Sweden | 1,014 | 1,030 | 718 | 1,239 | 740 |
| United Kingdom | 8,448 | 8,368 | 7,549 | 8,764 | 5,550 |
| Other Countries.. | 874 | 1,590 | 523 | 1,632 | 311 |
| 'For Orders' (b) | .. | 136 | .. | 41 | 71 |
| Total | 15,710 | 17,550 | 12,763 | 18,697 | 10,455 |

REFINED ZINC

| | | | | | |
|--------------------------|--------|--------|--------|--------|--------|
| China (Formosa) | 354 | 492 | 247 | 410 | 600 |
| Hong Kong | 528 | 928 | 746 | 669 | 477 |
| India | 2,258 | 2,542 | 6,837 | 2,488 | 3,914 |
| Italy | 996 | 1,224 | 707 | 750 | 1,084 |
| Netherlands | 1,614 | 152 | 223 | 1,445 | 1,728 |
| New Zealand | 136 | 112 | 407 | 227 | 453 |
| Pakistan | 63 | 24 | 166 | 38 | 600 |
| Philippines | 640 | 908 | 1,225 | 1,486 | 716 |
| Thailand | 1,156 | 1,658 | 2,087 | 1,877 | 3,053 |
| United Kingdom | 3,470 | 4,488 | 7,800 | 5,758 | 3,342 |
| U.S.A. | .. | 108 | 273 | 3,375 | 2,985 |
| Other Countries.. | 2,859 | 2,738 | 1,263 | 1,818 | 912 |
| Total | 14,074 | 15,374 | 21,981 | 20,341 | 19,864 |

(a) Singapore included with Malaysia from 1 July 1964 to 30 Sept. 1965.

(b) Country of consignment not determined at time of export.

Trade with Selected Countries

The principal countries of origin for overseas imports shipped direct to Tasmania in 1966-67 are shown, followed by the value in \$ million: U.S.A., 10.7; U.K., 8.9; Japan, 7.4; N.Z., 3.7; Sweden, 2.1; West Germany, 2.0; Canada, 1.9. The principal countries of destination for overseas exports shipped direct from Tasmania (value in \$ million) were: U.K., 20.9; U.S.A., 15.7; Japan, 10.3; Thailand, 5.4; India, 4.3; Italy, 3.6; France, 3.1; West Germany, 2.7; New Zealand, 2.7.

The next table shows the trade of Tasmania with selected overseas countries; countries selected are those for which imports or exports approached or exceeded \$500,000 in any one of the three years under review. It should be noted that some goods are received from, or sent to, overseas countries by transhipment through other Australian States; no data are available on such transactions.

**Trade With Overseas Countries
(\$'000)**

| Country of Origin or Destination | Imports | | | Exports | | |
|----------------------------------|---------|---------|---------|-----------|-----------|---------|
| | 1964-65 | 1965-66 | 1966-67 | 1964-65 | 1965-66 | 1966-67 |
| Belgium-Luxembourg | 178 | 291 | 96 | 1,211 | 1,402 | 339 |
| Burma | .. | .. | .. | 160 | 400 | 783 |
| Canada | 1,703 | 2,227 | 1,903 | 93 | 177 | 371 |
| China—Formosa .. | 3 | 4 | 3 | 252 | 495 | 781 |
| Mainland .. | 372 | 579 | 525 | 290 | 386 | 806 |
| Czechoslovakia .. | 42 | 36 | 41 | 394 | 432 | 305 |
| Finland | 475 | 758 | 559 | 104 | 264 | 141 |
| France | 222 | 376 | 404 | 3,375 | 3,904 | 3,067 |
| Germany, West .. | 1,252 | 2,008 | 2,004 | 3,360 | 6,644 | 2,743 |
| Ghana | (a) | (a) | (a) | .. | 22 | .. |
| Hong Kong | 451 | 337 | 417 | 2,980 | 2,384 | 1,918 |
| India | 250 | 213 | 134 | 7,691 | 2,581 | 4,313 |
| Iran | 44 | 709 | 419 | .. | .. | 13 |
| Italy | 690 | 679 | 1,057 | 2,301 | 3,187 | 3,578 |
| Japan | 3,593 | 5,673 | 7,385 | 4,760 | 7,970 | 10,291 |
| Kenya | 10 | 7 | 1 | 136 | 310 | 382 |
| Malaysia | (b) 189 | (b) 4 | 8 | (b) 3,895 | (b) 2,680 | 1,713 |
| Mexico | 1 | .. | .. | 757 | 582 | 998 |
| Netherlands | 788 | 631 | 896 | 789 | 2,721 | 2,106 |
| New Hebrides | 191 | 489 | .. | .. | .. | .. |
| New Zealand | 3,071 | 3,125 | 3,713 | 2,034 | 1,795 | 2,720 |
| Norway | 350 | 599 | 367 | 31 | 150 | 93 |
| Papua and New Guinea | (a) | (a) | (a) | 160 | 195 | 89 |
| Philippines | .. | 12 | 2 | 2,092 | 2,238 | 1,461 |
| Poland | 3 | 16 | 6 | 46 | 1,137 | 1,158 |
| Singapore | (b) | (b) | 2 | (b) | (b) 1,857 | 1,906 |
| South Africa | 852 | 444 | 187 | 164 | 102 | 531 |
| Sweden | 1,839 | 1,968 | 2,093 | 782 | 1,300 | 868 |
| Switzerland | 763 | 452 | 594 | 4 | 52 | 32 |
| Thailand | 1 | 11 | 2 | 3,994 | 3,844 | 5,437 |
| United Kingdom | 7,777 | 9,935 | 8,886 | 30,872 | 26,067 | 20,913 |
| U.S.A. | 7,954 | 8,014 | 10,735 | 12,707 | 14,398 | 15,737 |
| Yugoslavia | .. | .. | .. | 494 | 509 | 619 |
| Other | 2,653 | 3,988 | 8,937 | 1,285 | 1,718 | 2,545 |
| 'For Orders' (c) | .. | .. | .. | 102 | 104 | 77 |
| Total | 35,717 | 43,585 | 51,376 | 87,315 | 92,007 | 88,834 |

(a) Not available for publication; included in 'other'.

(b) Singapore included with Malaysia from 1 July 1964 to 30 Sept. 1965.

(c) Country of consignment not determined at the time of export.

Tasmanian and Australian Overseas Trade

Before comparing the values of the overseas trade of Tasmania and Australia, it has been necessary to take into account the value of outside packages, containers, crates, etc. in which goods are ordinarily imported from overseas. Such values have been omitted from all import tables in this chapter up to 1964-65 (except in the following comparative table), but they are normally included in trade statistics published by the Commonwealth Statistician. As from 1965-66, the value of outside packages is included in all Tasmanian import tables, now that a new commodity classification is in use. Export values in this chapter include the value of outside packages.

Value of Overseas Trade—Tasmania and Australia

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------|-------------------|-----------|-----------|-----------|-----------|
| IMPORTS | | | | | |
| Australia— | Total ...(\$'000) | 2,162,670 | 2,372,658 | 2,904,703 | 2,939,492 |
| | Per Head (\$) | r199.39 | r214.54 | r257.54 | r255.59 |
| Tasmania (a)— | Total ...(\$'000) | 36,364 | 35,513 | 36,138 | r43,585 |
| | Per Head (\$) | r101.52 | r97.90 | r98.64 | r117.92 |
| EXPORTS | | | | | |
| Australia— | Total ...(\$'000) | 2,151,812 | 2,782,460 | 2,651,449 | 2,720,953 |
| | Per Head (\$) | r198.39 | r251.59 | r235.09 | r236.59 |
| Tasmania— | Total ...(\$'000) | 66,792 | 78,318 | 87,315 | 92,007 |
| | Per Head (\$) | r186.48 | r215.90 | r238.33 | r248.94 |

(a) Value of outside packages included: 1962-63, \$618,420; 1963-64, \$481,324; 1964-65, \$420,762.

(b) Includes \$682,023, the value of outside packages, but agrees with total imports shown in other tables.

r Revised.

The relatively low value of overseas imports per head of Tasmanian population is due in part to the transhipment of goods in other Australian ports. Since some goods go overseas from Tasmania by transhipment and are therefore *not* recorded as Tasmanian overseas exports, the export comparisons *per head* of Australian and Tasmanian populations suggest that the State plays an important role as an earner of export income.

Interstate Trade by Air

No data are compiled to show State of origin or State of destination for trade by air; most planes carrying commercial freights in connection with Tasmanian trade take off from or land in Victoria.

The value of interstate trade by air, since 1964-65, has been as follows:
Imports: 1964-65, \$20,819,000; 1965-66, \$21,123,000; 1966-67, \$20,311,000.
Exports: 1964-65, \$25,770,000; 1965-66, \$25,575,000; 1966-67, \$25,680,000.

Interstate Trade by Sea

As might be expected with Melbourne the major port closest to Tasmania, the bulk of the island's interstate trade is transacted with Victoria. The next table shows the value of interstate sea trade with the Australian States. Imports

include the value of goods imported into other States from overseas and transhipped to Tasmania; exports include the value of goods exported to other States for transhipment overseas.

**Value of Interstate Sea Trade
(\$'000)**

| Australian State of Origin or Destination | Imports | | | Exports | | |
|---|---------|----------|----------|---------|---------|---------|
| | 1964-65 | 1965-66 | 1966-67 | 1964-65 | 1965-66 | 1966-67 |
| N.S.W. .. | 35,377 | 38,935 | 47,769 | 82,114 | 89,631 | 91,318 |
| Victoria .. | 116,506 | 126,580 | 135,534 | 86,321 | 97,393 | 107,266 |
| Queensland .. | 3,204 | (a)3,931 | (a)5,911 | 8,865 | 9,858 | 9,946 |
| S.A... .. | 13,726 | 20,182 | 18,063 | 11,045 | 11,441 | 11,657 |
| W.A. .. | 2,150 | 3,104 | 2,179 | 5,026 | 4,462 | 4,787 |
| Total .. | 170,963 | 192,732 | 209,456 | 193,371 | 212,785 | 224,975 |

(a) Includes the value of manganese ore imported from the Northern Territory. Details are not available for separate publication.

Sea Trade of Tasmanian Ports

In the following table, the value of total imports and exports by sea is shown for each port:

**Total Value of Sea Trade Classified According to Port
(\$'000)**

| Port | Imports | | Exports | | Total Sea Trade | |
|---------------|---------|---------|---------|---------|-----------------|---------|
| | 1965-66 | 1966-67 | 1965-66 | 1966-67 | 1965-66 | 1966-67 |
| Burnie .. | 43,942 | 55,777 | 53,764 | 53,615 | 97,706 | 109,392 |
| Devonport .. | 54,103 | 58,810 | 52,695 | 54,048 | 106,798 | 112,858 |
| Hobart .. | 76,464 | 79,403 | 119,227 | 120,401 | 195,691 | 199,804 |
| Currie .. | 1,783 | 1,893 | 3,829 | 5,561 | 5,612 | 7,455 |
| Launceston .. | 58,686 | 63,618 | 62,501 | 67,001 | 121,187 | 130,620 |
| Stanley .. | 219 | 64 | 1,145 | 1,276 | 1,364 | 1,339 |
| Strahan .. | 1,120 | 1,267 | 11,630 | 11,907 | 12,750 | 13,174 |
| Total .. | 236,318 | 260,832 | 304,792 | 313,809 | 541,110 | 574,641 |

The next table compares the proportion of total sea trade values attributed to each port (with 1958-59 as a base year):

**Total Value of Sea Trade—Port Proportions
(Per Cent)**

| Port | 1958-59 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------|---------|---------|---------|---------|---------|---------|
| Burnie .. | 15.3 | 15.8 | 16.6 | 17.0 | 18.0 | 19.0 |
| Devonport .. | 5.6 | 19.4 | 19.4 | 21.0 | 19.7 | 19.6 |
| Hobart .. | 50.8 | 39.2 | 36.6 | 35.7 | 36.2 | 34.8 |
| Currie .. | 0.5 | 0.8 | 0.8 | 0.8 | 1.0 | 1.3 |
| Launceston .. | 23.5 | 22.3 | 23.8 | 22.9 | 22.4 | 22.7 |
| Stanley .. | 0.6 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 |
| Strahan .. | 2.4 | 2.1 | 2.5 | 2.3 | 2.4 | 2.3 |
| Ulverstone .. | 1.2 | (a) | (a) | (a) | (a) | (a) |
| Total .. | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

(a) Incorporated in Devonport figures from 1 January 1963.

The drop in the proportion of sea trade attributed to Hobart since 1958-59 is related to the increasing use of 'sea-road' facilities available through the ports of Devonport, Launceston and Burnie. The vessels involved in the 'sea-road' service to northern and north-western ports are the *Princess of Tasmania* and the *Bass Trader*. As from June 1964 similar facilities became available at Hobart when the *Seaway Queen* began a 'sea-road' service to Melbourne, followed by the *Seaway King* operating a Sydney service from September 1964. In January 1965, the *Empress of Australia* commenced a service with Sydney-Hobart-Sydney as one route and Sydney-Bell Bay-Burnie-Sydney as the other.

Air Trade of Tasmanian Airports

Although Tasmania has a number of airports, only six are used on a regular basis for interstate trade; four are located near Hobart, Launceston, Burnie and Devonport respectively and the remaining two on King and Flinders Islands respectively.

The following table shows the value of interstate air trade passing through Tasmanian air-ports:

Total Value of Interstate Air Trade Classified According to Airport
(\$'000)

| Airport | Imports | | Exports | | Total Air Trade | |
|--------------------|---------|---------|---------|---------|-----------------|---------|
| | 1965-66 | 1966-67 | 1965-66 | 1966-67 | 1965-66 | 1966-67 |
| Hobart .. | 10,675 | 10,147 | 4,013 | 4,183 | 14,688 | 14,330 |
| Launceston .. | 6,296 | 5,986 | 20,373 | 20,292 | 26,669 | 26,278 |
| Devonport .. | 1,465 | 1,493 | 196 | 202 | 1,661 | 1,695 |
| Wynyard (a) | 1,776 | 1,690 | 246 | 197 | 2,022 | 1,887 |
| King Island .. | 602 | 668 | 576 | 614 | 1,178 | 1,282 |
| Flinders Island .. | 308 | 327 | 171 | 193 | 479 | 520 |
| Total .. | 21,123 | 20,311 | 25,575 | 25,680 | 46,698 | 45,991 |

(a) Including Smithton.

The percentage of the total value of air trade passing through each Tasmanian airport in 1966-67 was: Hobart, 31.2; Launceston, 57.1; Devonport, 3.7; Wynyard, 4.1; King Island, 2.8; Flinders Island, 1.1.

Commodities Carried by Air

It will be observed that the value of trade by air approaches 8 per cent of the value of total trade by sea and air combined. With regard to exports by air (valued at \$25,680,000 in 1966-67), the major group was 'Woollen Manufactures and Other Textiles' valued at \$24,135,000; exports of all food-stuffs (meat, crayfish, fruit, etc.) accounted for a further \$1,111,000. For imports, there is a much greater range of commodities involved, the chief group being 'Clothing and Footwear' valued at \$11,990,000.

The value of imports by air has shown only a slow increase (from \$19.2m to \$20.3m, 1959-60 and 1966-67); the increase in the value of air exports has also been relatively slow (from \$20.8m to \$25.7m, 1959-60 and 1966-67). A possible explanation is the improvement in sea carriage techniques (roll-on roll-off vessels, container vessels, etc.) and shipping schedules.

Imports of Principal Commodities

The next table shows the value of the principal commodities imported into Tasmania by sea and air:

*Trade, Transport and Communications***Imports of Principal Commodities by Sea and Air—Values
(\$'000)**

| Commodity | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Beer, Wine and Spirits | 2,821 | 3,368 | 3,854 |
| Aluminium Oxide | 3,547 | 3,085 | 3,321 |
| Clothing and Accessories | 14,046 | 13,566 | 13,708 |
| Cocoa Beans and Cocoa Butter | (a) | (a) | (a) |
| Footwear | 2,860 | 2,879 | 3,076 |
| Machinery—Electrical | 8,897 | 11,605 | 12,780 |
| Other | 14,762 | 20,342 | 23,575 |
| Metal Manufactures | 6,679 | 7,073 | 8,646 |
| Metals | 12,624 | 14,247 | 16,901 |
| Motor Vehicles—New | 21,402 | 22,813 | 26,287 |
| Other (b) | 17,297 | 19,365 | 18,727 |
| Ores and Concentrates—Zinc | 4,917 | 7,220 | 6,800 |
| Other | 2,698 | 3,080 | 4,390 |
| Paper and Paper Manufactures | 6,830 | 8,276 | 8,487 |
| Petroleum Products—Motor Spirit | 6,881 | 7,180 | 7,299 |
| Fuel Oils | 6,370 | 7,538 | 8,262 |
| Other | 1,924 | 4,482 | 4,332 |
| Pulp for Paper Making | 6,266 | 6,843 | 6,590 |
| Rubber Manufactures | 3,975 | 4,330 | 4,342 |
| Sugar, Refined | 4,260 | 4,331 | 4,410 |
| Textile Yarn and Fabrics | 9,471 | 9,997 | 9,136 |
| Tobacco and Cigarettes | 12,037 | 12,771 | 13,258 |
| Wheat | 2,381 | 2,757 | 2,729 |
| Wool, Greasy | 3,932 | 3,684 | 3,159 |
| Other | 50,622 | 56,609 | 67,074 |
| Total Imports | 227,499 | 257,441 | 281,143 |

(a) Not available for publication; included in 'other'.

(b) Mainly tourists' and other motor vehicles imported as passengers' personal effects.

The table that follows shows the quantities of the principal commodities imported and has been compiled, as far as this is practicable, to match the preceding table of values.

Imports of Principal Commodities by Sea and Air—Quantities

| Commodity | Unit of Quantity | 1964-65 | 1965-66 | 1966-67 |
|---|------------------|---------|-----------|---------|
| Alcoholic Beverages— | | | | |
| Ale, Beer and Stout gal | 272,360 | 356,032 | 566,994 | |
| Wine gal | 424,537 | 497,506 | 502,259 | |
| Spirits and Liqueurs—Overseas pf gal | 26,226 | 20,227 | 24,485 | |
| Interstate gal | 150,761 | 173,891 | 175,842 | |
| Aluminium Oxide cwt | 1,064,257 | 965,608 | 1,066,299 | |
| Cocoa, Beans and Cocoa Butter | (a) | (a) | (a) | |
| Iron and Steel ton | 81,104 | 97,978 | 115,757 | |
| Motor Vehicles—New no. | 12,865 | 13,113 | 13,217 | |
| Other (b) no. | 10,895 | 12,252 | 12,073 | |
| Ores and Concentrates—Zinc ton | 184,796 | 260,025 | 245,484 | |
| Other ton | 213,619 | 225,743 | 316,791 | |
| Paper and Paper Manufactures cwt | 312,019 | 411,263 | 464,551 | |
| Petroleum Products—Motor Spirit '000 gal | 61,455 | 63,422 | 65,817 | |
| Fuel Oils '000 gal | 64,973 | 76,380 | 80,824 | |
| Pulp for Paper-making ton | 55,003 | 59,601 | 59,731 | |
| Sugar, Refined ton | 24,058 | 23,988 | 24,704 | |
| Tobacco and Cigarettes '000 lb | 2,310 | 2,339 | 2,346 | |
| Wheat ton | 43,778 | 49,185 | 47,312 | |
| Wool, Greasy '000 lb | 5,828 | 5,700 | 5,214 | |

(a) Not available for publication.

(b) Mainly tourists' and other motor vehicles imported as passengers' personal effects.

Exports of Principal Commodities

The following table shows the value of the principal commodities exported from Tasmania by sea and air. The largest item listed—‘Commodities Not Available for Publication’—comprises the total export value of aluminium, alumina, ferro-manganese, calcium carbide, cement, paper, paper pulp, stationery, hardboard and plywood.

**Exports of Principal Commodities by Sea and Air—Values
(\$'000)**

| Commodity | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|
| Butter | 5,914 | 5,214 | 5,259 |
| Fish (including Crayfish) | 1,753 | 2,687 | 2,517 |
| Fruit—Apples (Fresh) | 13,208 | 19,096 | 11,197 |
| Pears (Fresh) | 1,051 | 1,554 | 675 |
| Processed | 1,632 | 2,031 | 2,381 |
| Hops | 1,166 | 1,677 | 1,040 |
| Meat—Beef | 4,137 | 3,909 | 4,739 |
| Lamb and Mutton | 1,434 | 2,185 | 2,237 |
| Other | 1,201 | 1,188 | 963 |
| Potatoes (Fresh) | 3,230 | 2,767 | 1,468 |
| Preserved Vegetables (including Dried) | 15,068 | 15,360 | 17,563 |
| Other Food and Drink (including Confectionery) | 22,598 | 23,995 | 31,324 |
| Fertilisers | 3,360 | 3,811 | 2,077 |
| Hides and Skins | 2,691 | 3,163 | 3,372 |
| Metal Manufactures (including Machinery) | 7,602 | 6,302 | 7,290 |
| Metals, Refined—Cadmium | 1,396 | 1,265 | 1,151 |
| Copper | 9,541 | 10,725 | 11,433 |
| Zinc | 37,327 | 38,331 | 41,249 |
| Ores and Concentrates—Lead | 4,443 | 5,352 | 4,969 |
| Tin | 2,573 | 3,060 | 2,539 |
| Other | 2,555 | 2,891 | 5,052 |
| Motor Cars and Commercial Vehicles (a) | 18,299 | 19,753 | 19,265 |
| Pigments, Paints and Varnishes | 7,873 | 8,399 | 9,433 |
| Timber—Dressed | 3,492 | 3,410 | 4,137 |
| Undressed | 9,318 | 8,735 | 9,535 |
| Wool, Greasy | 16,593 | 20,155 | 20,373 |
| Woollen Manufactures | 24,139 | 24,077 | 24,102 |
| Commodities Not Available for Publication (b) | 76,625 | 80,918 | 78,030 |
| Not Elsewhere Included | 6,237 | 8,357 | 14,120 |
| Total Exports | 306,456 | 330,367 | 339,490 |

(a) Mainly tourists' and other motor vehicles exported as passengers' personal effects.

(b) Commodities comprising this item are: aluminium, alumina, ferro-manganese, calcium carbide, cement, paper, paper pulp, stationery, hardboard, and plywood.

The next table shows the quantities of the principal commodities exported and has been compiled, as far as this is practicable, to match the table of values.

Exports of Principal Commodities by Sea and Air—Quantities

| Commodity (a) | Unit of Quantity | 1964-65 | 1965-66 | 1966-67 |
|------------------------------------|------------------|---------|---------|---------|
| Butter | cwt | 204,200 | 174,765 | 179,906 |
| Fish—Crayfish | cwt | 14,187 | 20,322 | 17,490 |
| Other | cwt | 18,439 | 20,175 | 27,112 |
| Fruit—Apples | '000 bush | 4,839 | 6,504 | 4,742 |
| Pears | '000 bush | 354 | 518 | 282 |
| Preserved in Liquid | '000 lb | 10,436 | 10,479 | 12,987 |
| Pulped | '000 lb | 2,757 | 3,256 | 3,845 |
| Dried | '000 lb | 258 | 752 | 762 |
| Hops | '000 lb | 1,716 | 2,568 | 1,397 |

Exports of Principal Commodities by Sea and Air—Quantities—*continued*

| Commodity (a) | Unit of Quantity | 1964-65 | 1965-66 | 1966-67 |
|--|------------------|---------|---------|---------|
| Meat—Beef | cwt | 147,909 | 121,545 | 135,711 |
| Lamb and Mutton | cwt | 71,387 | 100,358 | 103,562 |
| Pork | cwt | 20,815 | 15,336 | 15,731 |
| Potatoes (Fresh) | ton | 27,699 | 28,758 | 27,590 |
| Preserved Vegetables (including Dried) | '000 lb | 81,256 | 79,624 | 85,917 |
| Fertilisers | ton | 48,507 | 62,733 | 48,133 |
| Sheepskins | '000 lb | 5,899 | 7,205 | 7,500 |
| Other Hides and Skins (excluding Furred) | '000 lb | 4,564 | 3,663 | 4,301 |
| Metals, Refined—Cadmium | ton | 270 | 308 | 272 |
| Copper | ton | 14,741 | 13,923 | 14,318 |
| Zinc | ton | 139,032 | 135,089 | 152,820 |
| Ores and Concentrates—Lead | ton | 24,084 | 27,311 | 26,495 |
| Tin | ton | 1,722 | 1,801 | 1,759 |
| Motor Cars and Commercial Vehicles (b) | no. | 11,554 | 12,424 | 12,362 |
| Timber—Dressed | '000 sup ft | 15,012 | 14,375 | 17,277 |
| Undressed | '000 sup ft | 65,435 | 59,488 | 62,170 |
| Wool, Greasy | '000 lb | 30,329 | 34,376 | 35,802 |

(a) Principal commodities not available for publication comprise aluminium, alumina, ferromanganese, calcium carbide, cement, paper, paper pulp, stationery, hardboard, plywood, and confectionery.

(b) Mainly tourists' and other motor vehicles exported as passengers' personal effects.

Exports of Selected Commodities

The following table shows, in summary form, total exports of selected commodities since 1939-40:

Exports of Selected Commodities by Sea and Air

| Commodity | Unit of Quantity | 1939-40 | 1949-50 | 1959-60 | 1966-67 |
|--------------------------------------|------------------|---------|---------|---------|---------|
| QUANTITY | | | | | |
| Butter | cwt | 55,428 | 42,886 | 154,789 | 179,906 |
| Fresh Fruit | '000 bush | 3,910 | 2,963 | 4,210 | 5,024 |
| Potatoes (Fresh) | ton | 117,700 | 84,896 | 44,001 | 27,590 |
| Hops | '000 lb | 1,584 | 1,767 | 2,955 | 1,397 |
| Wool, Greasy | '000 lb | 9,092 | 9,101 | 27,977 | 35,802 |
| Sheepskins | '000 lb | 2,285 | r 3,709 | 7,090 | 7,500 |
| Refined Copper | ton | 11,738 | 4,253 | 7,624 | 14,318 |
| Refined Zinc | ton | 70,909 | 80,704 | 113,853 | 152,820 |
| Timber (Dressed and Undressed) | '000 sup ft | 50,858 | 62,136 | 75,403 | 79,447 |
| VALUE \$('000) | | | | | |
| Butter | .. | 742 | 1,278 | 5,390 | 5,259 |
| Fresh Fruit | .. | 2,270 | 4,348 | 9,490 | 11,872 |
| Potatoes (Fresh) | .. | 1,558 | 3,302 | 1,656 | 1,468 |
| Hops | .. | 236 | 610 | 1,928 | 1,040 |
| Wool, Greasy | .. | 1,376 | 6,202 | 15,254 | 20,373 |
| Sheepskins | .. | 186 | 816 | 2,078 | 2,456 |
| Woollen Manufactures | .. | 2,674 | 5,540 | 17,524 | 24,102 |
| Refined Copper | .. | 1,416 | 1,478 | 5,022 | 11,433 |
| Refined Zinc | .. | 2,856 | 9,964 | 22,922 | 41,249 |
| Ores and Concentrates | .. | 2,144 | 4,076 | 5,952 | 12,560 |
| Timber (Dressed and Undressed) | .. | 1,238 | 2,930 | 8,952 | 13,672 |

r Revised.

Further Information on Trade Statistics

In this chapter, it is only possible to give a broad outline of Tasmania's trade. The following cover the subject in greater detail:

The Trade and Shipping bulletin: this annual publication of the Tasmanian Office of the Bureau of Census and Statistics deals in detail with the State's interstate trade and includes an integration of interstate and overseas trade.

Overseas Trade: this annual publication of the Commonwealth Statistician gives considerable detail on the State's overseas trade.

RETAIL TRADE IN TASMANIA

Introduction

The statistics in this section have been obtained from the Australian Census of Retail Establishments (last conducted in 1961-62) and, for non-Census years, from the quarterly Australian Survey of Retail Establishments.

Census of Retail Establishments

Retail censuses were taken in respect of the years ended 30 June 1948, 1949, 1953, 1957 and 1962. The information collected in each census is extensive and provides details of retail trading in local government areas, in statistical divisions, and in special 'statistical retail' areas. The census information is also used as a bench-mark for designing a sample representative of all retail establishments.

Survey of Retail Establishments

Quarterly estimates of the value of retail sales have been calculated from the September quarter 1950, inclusive, by means of sample surveys. The information collected quarterly in each survey is much less detailed than in the censuses and provides estimates only for the State as a whole. For 1966-67, a special collection was made from approximately 2,000 establishments, the aim being to revise the sample.

Census of Retail Establishments, 1961-62

Sales by Type of Business

There are two ways in which the value of retail sales may be presented: either as totals for particular commodity groups, or as totals for particular types of business. For example, information from the retail census provides a total of the value of all *groceries* sold by all types of retail business, and also a total of the value of all commodity groups sold by *grocers*; the two totals will normally differ since the classification *grocer* is applied to an establishment in which *groceries* are the principal but not necessarily the only line of sale (e.g. a country *grocer* may also sell commodities such as petrol).

Types of Business, 1961-62

The following table shows the number of retail establishments recorded at the Census of 1961-62; they are classified according to the type of business (determined by the value of the principal line, or lines, of goods sold). Also shown are the total retail sales during 1961-62, for the various types of business. Comparative figures are given of the results of the Census of 1956-57. In the table, the item 'Grocers' is concerned with *grocers'* total sales of all commodity groups; in more general terms, the turnover figures relate to total sales by each type of business, and give no precise indication of total sales of any particular commodity group.

Number of Retail Establishments and Value of Retail Sales of Goods by Type of Business, 1956-57 and 1961-62

| Type of Business | Number of Retail Establishments | | Value of Retail Sales | |
|--|------------------------------------|---------|--------------------------|---------|
| | 1956-57 | 1961-62 | 1956-57 | 1961-62 |
| Food Stores— | | | no. | \$'000 |
| Grocers | 1,100 | 1,046 | 33,998 | 42,190 |
| Butchers | 295 | 357 | 11,280 | 13,742 |
| Fruiterers | 90 | 93 | 2,476 | 2,966 |
| Bakers | 151 | 158 | 3,434 | 4,364 |
| Confectioners and Milk Bars | 208 | 307 | 3,454 | 5,872 |
| Cafes | 20 | 59 | 152 | 564 |
| Fishmongers and Poulterers | 32 | 44 | 542 | 880 |
| Other Food Stores | 30 | 53 | 806 | 1,404 |
| Hotels, Tobacconists, etc.— | | | | |
| Hotels, Wine Saloons, etc. | 308 | 311 | 15,622 | 18,382 |
| Tobacconists | 23 | 21 | 762 | 456 |
| Tobacconists and Hairdressers | 64 | 51 | 430 | 328 |
| Department Stores, Clothiers, Drapers, etc.— | | | | |
| Department Stores | 6 | 6 | 7,322 | 11,964 |
| Clothiers and Drapers | 304 | 336 | 23,850 | 24,768 |
| Footwear Stores | 61 | 78 | 2,980 | 3,712 |
| Hardware, Electrical Goods, Furniture Stores, etc.— | | | | |
| Domestic Hardware Stores | 57 | 43 | 2,284 | 2,328 |
| Electrical Goods, Radios and Musical Instruments Stores | 130 | 157 | 5,416 | 8,976 |
| Furniture and Floor Coverings Stores | 77 | 80 | 5,008 | 6,594 |
| Other Goods Stores— | | | | |
| Chemists | 96 | 124 | 3,398 | 5,894 |
| Newspagents and Booksellers | 99 | 121 | 3,780 | 5,018 |
| Sports Goods Stores | 20 | 23 | 640 | 984 |
| Watchmakers and Jewellers | 56 | 54 | 1,182 | 1,252 |
| Cycle Stores | 11 | 8 | 114 | 100 |
| Florists and Nurserymen | 33 | 44 | 422 | 410 |
| Other Types of Business | 77 | 120 | 1,742 | 2,770 |
| Total (excluding Motor Vehicle Dealers, Garages and Service Stations, etc.) | 3,348 | 3,694 | 131,094 | 165,918 |
| Motor Vehicle Dealers, Garages and Service Stations, etc.— | | | | |
| New Motor Vehicle Dealers, Garages and Service Stations | 414 | 476 | 38,034 | 40,096 |
| Used Motor Vehicle Dealers | 25 | 48 | 4,442 | 11,912 |
| Motor Parts and Tyre Dealers | 36 | 52 | 1,510 | 2,006 |
| Total Motor Vehicle Dealers, Garages and Service Stations, etc. | 475 | 576 | 43,986 | 54,014 |
| Grand Total | 3,823 | 4,270 | 175,080 | 219,932 |

Sales of Commodities in Statistical Divisions

The next table gives details of retail sales in each statistical division and in the auxiliary groupings, Hobart and Suburbs and Launceston and Suburbs. A further dissection is provided for a special area of Hobart, designated the 'inner city' for the purpose of the Census, and defined as the blocks bounded by Campbell, Brisbane, Barrack and Macquarie Streets. In this table, the value totals for each area are based on commodity totals, i.e. the column for the motor vehicle commodity group relates exclusively to sales of motor vehicles, motor

parts, tyres, petrols, lubricants and other 'motor commodities', irrespective of the type of business making the sale. This contrasts with the presentation in the previous table, where the turnover figures for the motor vehicle group of establishments related to their sales of *all* commodities, including soft drinks, cigarettes, detergents and other 'non-motor commodities'.

Value of Retail Sales of Goods in Each Statistical Division and in City and Suburban Districts, 1961-62

| Area | Total Number of Retail Establishments | Value of Retail Sales (\$'000) | | |
|------------------------------------|---------------------------------------|--|--------------------------|-----------------|
| | | All Commodities Excluding Motor Vehicles, etc. (a) | Motor Vehicles, etc. (a) | All Commodities |
| STATISTICAL DIVISIONS | | | | |
| South Central— | | | | |
| Hobart—Inner City Area .. | 425 | 36,070 | 10,310 | 46,380 |
| Remainder of South Central .. | 779 | 26,266 | 12,798 | 39,064 |
| Total | 1,204 | 62,336 | 23,108 | 85,444 |
| North Central | 728 | 34,592 | 14,494 | 49,086 |
| North Western | 995 | 33,676 | 11,804 | 45,480 |
| North Eastern | 344 | 7,790 | 1,082 | 8,872 |
| North Midland | 160 | 3,668 | 542 | 4,210 |
| Midland | 131 | 3,098 | 404 | 3,502 |
| South Eastern | 246 | 6,398 | 888 | 7,286 |
| Southern | 336 | 9,464 | 1,076 | 10,540 |
| Western | 126 | 5,038 | 474 | 5,512 |
| Total Tasmania .. | 4,270 | 166,060 | 53,872 | 219,932 |
| CITY AND SUBURBAN DISTRICTS | | | | |
| Hobart and Suburbs— | | | | |
| Hobart—Inner City Area .. | 425 | 36,070 | 10,310 | 46,380 |
| Remainder, Hobart and Suburbs .. | 928 | 30,720 | 13,374 | 44,094 |
| Total Hobart and Suburbs .. | 1,353 | 66,790 | 23,684 | 90,474 |
| Launceston and Suburbs .. | 805 | 36,274 | 14,814 | 51,088 |
| Remainder of State .. | 2,112 | 62,996 | 15,374 | 78,370 |
| Total Tasmania .. | 4,270 | 166,060 | 53,872 | 219,932 |

(a) Sales as commodity group totals; 'motor vehicles, etc.' includes petrol, lubricants, parts, tyres, etc. as well as new and used vehicles.

Quarterly Retail Sales Estimates

Each quarter, returns of retail sales are collected from a fraction (or sample) of all the retail businesses recorded in the most recent census of retail establishments, the fraction being selected to represent the field covered by the census. This sample is varied from time to time to make provision for 'new' establishments opening up, 'old' establishments closing down and 'old' establishments changing type ('old', in this context, relates to businesses as recorded at the most recent census of retail establishments). From the returns made by the sample establishments, estimates are calculated quarterly of the total volume of retail sales, and also the total sales of broad groups of commodities. The following table presents, as annual totals, the results of the quarterly surveys:

Estimated Value of Retail Sales of Goods by Commodity Groups (a)
 (\$ million)

| Commodity Group | 1961-62 | 1962-63 <i>r</i> | 1963-64 <i>r</i> | 1964-65 <i>r</i> | 1965-66 <i>r</i> | 1966-67 |
|--|---------|---------------------|---------------------|---------------------|---------------------|---------|
| Groceries | 28.55 | 29.32 | 31.48 | 33.48 | 35.16 | 36.46 |
| Butchers' Meat | 13.86 | 14.97 | 15.20 | 16.57 | 17.13 | 18.50 |
| Other Food | 20.05 | 21.46 | 21.10 | 22.75 | 23.89 | 25.71 |
| Beer, Wine, Spirits | 16.98 | 16.88 | 18.38 | 18.95 | 20.35 | 23.04 |
| Clothing, Drapery, Piece Goods | 30.12 | 30.68 | 32.49 | 34.43 | 34.96 | 38.38 |
| Footwear | 5.25 | 5.36 | 5.75 | 5.82 | 6.05 | 6.29 |
| Domestic Hardware | 4.08 | 4.42 | 4.37 | 4.40 | 4.59 | 5.15 |
| Electrical Goods | 10.65 | 11.74 | 11.36 | 11.21 | 11.12 | 11.42 |
| Furniture, Floor Coverings | 7.22 | 7.86 | 8.20 | 8.92 | 9.35 | 10.83 |
| Chemists' Goods | 7.48 | 7.68 | 8.32 | 9.48 | 10.02 | 10.85 |
| Newspapers, Periodicals, etc. | 5.49 | 5.52 | 5.94 | 6.38 | 6.83 | 7.42 |
| Other Goods (b) | 16.33 | 17.28 | 17.56 | 19.22 | 20.06 | 21.87 |
| Total (excluding Motor Vehicles, etc.) | 166.06 | 173.17 | 180.15 | 191.61 | 199.49 | 215.92 |
| Motor Vehicles, Parts, Petrol, etc. | 53.87 | 63.27 | 70.47 | 75.38 | 77.79 | 78.70 |

(a) Survey results for all years except 1961-62, the year of the most recent census of retail establishments.

(b) Includes sports goods, jewellery, cycles, flowers, plants, etc.

r Revised.

MARINE BOARDS AND HARBOUR TRUSTS

Introduction

Tasmania has a number of ports for handling overseas vessels; they are sited on the Derwent and Huon rivers in the south (Hobart and Port Huon); on the Tamar in the north (Beauty Point, Inspection Head and Bell Bay); on the Mersey (Devonport), in Emu Bay (Burnie), and at Port Latta, all in the northwest. All overseas ports provide approximately 30 feet or more of water at berths; Port Latta provides a depth of 52 feet nearly a mile off-shore.

Interstate and intrastate trade passes through the main ports and is carried on as well through ports at Launceston, Strahan, Stanley, Ulverstone, Currie (on King Island) and Lady Barron (on Flinders Island).

This section deals primarily with the Marine Boards which control the harbours but a brief description is given of the main ports.

Port of Hobart

Location

The approach to the Derwent and the Port of Hobart is made through a very wide strait between Cape Queen Elizabeth (Bruny Island) and Cape Raoul (Tasman Peninsula), approximately 30 miles south-east from the city. The mouth of the Derwent, three and a half miles wide, lies 12 miles south-east of the port which is built upstream on the western bank in a U-shaped cove; the opposite bank lies one and a half miles away to the east at this point. The shores of the Derwent and the arms of the cove act as natural breakwaters.

Description

The present main port of Hobart is extremely compact, being U-shaped and with only 2,000 feet or less separating the two arms. The southern arm is devoted to Princes Wharf with berths numbered one to four; the centre contains

Kings Pier while the northern arm is made up of the Macquarie wharves with berths one to four and a special tanker berth. Most wharves and sheds in the main port are of concrete construction. The urgency of this type of modernisation was emphasised in 1948 when fire destroyed the wooden Ocean Pier No. 2 shed and the outer 80 feet of berth.

The main recent development has been connected with roll-on roll-off type vessels for which special provision has had to be made. Princes Wharf No. 1 berth was converted into a specialised terminal with drive-on ramp and vehicle marshalling area, the *Seaway Queen* and *Seaway King* first berthing there in June and August 1964, respectively. To accommodate the new Sydney-Hobart roll-on roll-off vessel *Empress of Australia*, extensive land reclamation was carried out to the south of Princes Wharf No. 3 berth and the new facility, named No. 4 berth, involved a further wharf, a drive-on ramp, an extensive marshalling area and a terminal building. The *Empress* began the new service in January 1965.

The most striking feature of the Port of Hobart is the ease with which large vessels can be brought to berth. Tides present no problem, the rise and fall being four feet six inches average, and no dredging of approach channels has ever been necessary.

Subsidiary Ports

In addition to the main port in the heart of the city, there are a number of subsidiary outlets serving the south of the State. Near Snug, on D'Entrecasteaux channel, is the wharf of the Electrona carbide works. On the west bank of the Huon River near Geeveston is Port Huon wharf, located in the centre of the principal orcharding area and used mainly for fruit exports. Also based on the Huon River (for export of paper pulp) is the A.P.M. Ltd wharf at Hospital Bay. In the Derwent itself, two and a half miles upstream from the main port, is a tanker berth at Selfs Point where bulk petrol and oil are stored; tankers pass under the 150 feet high navigation span of the Tasman Bridge on their way. A mile upstream from Selfs Point is the private wharf of the Electrolytic Zinc Company Ltd at Risdon. Nearly twenty miles upstream from the main port is the plant of Australian Newsprint Mills Ltd at Boyer from which newsprint rolls are carried downstream by barge and tug.

The authority controlling the main port and Port Huon is the Hobart Marine Board.

Works Programme

Main work for 1968 includes: (i) the extension of Macquarie Wharf No. 3 berth by approximately 200 feet to a width of 50 feet and the construction of an adjacent shed 120 feet by 250 feet; the aim is to provide an open area for steel discharge and a sorting area to break up bulk cargo (the new facilities will accommodate the *Poolta* which is being re-fitted for trade with N.S.W.); (ii) construction of a completely new and modern slipway on the Domain, to accommodate vessels up to 1,000 tons light displacement; (iii) strengthening the decking of the outermost 66 feet of Princes Wharf No. 3 shed to accommodate heavy fork lift trucks used to handle cargo for the *Empress of Australia*.

Port of Launceston

Location

Launceston lies nearly forty miles upstream at the headwaters of the Tamar which discharges into Bass Strait between Low and West Heads; although the mouth of the Tamar is four miles wide, the river follows a sinuous course marked by many bends, and narrows to less than 300 yards in some

stretches near the city. Tides are large, the rise and fall being from 10 feet to 12 feet according to location and silting occurs in the upper reaches which receive the discharge of the South Esk and North Esk Rivers.

Because of the limitations of the upper Tamar near Launceston, development of the port shows a pattern different from that of Hobart where all interstate and overseas berths are concentrated in the one area. In Launceston, the possibilities of the Tamar have been exploited by decentralisation, the present main outlets being:

- (i) Kings Wharf; interstate berths in Launceston itself immediately downstream from the junction of the North Esk and Tamar Rivers; facilities include a graving dock for small ship repair.
- (ii) Beauty Point Wharf; overseas berths on the western bank approximately eight miles upstream from the mouth of the Tamar;
- (iii) Inspection Head Wharf; overseas berths on the western bank approximately half a mile downstream from Beauty Point Wharf;
- (iv) Bell Bay Wharves; these include a tanker berth, a general cargo and passenger berth and the special cargo wharf serving Comalco Aluminium Ltd, operator of a nearby refinery. The Bell Bay site is on the eastern shore opposite Beauty Point.

The port has also had to make provision for the operation of roll-on roll-off ferry services and Bell Bay is the chosen terminal, the *Empress of Australia* making alternate Sydney-Tasmania voyages to Hobart and Bell Bay.

Description

Virtually all berths in the lower reaches of the port have been constructed since 1951; they are first class modern concrete structures especially designed to employ the Board's mechanical handling equipment.

Channel and lighting improvements have allowed vessels of deeper draft to enter and, more importantly, have permitted navigation of large vessels to be extended into the hours of darkness. The growing industrial complex at Bell Bay demands fast turn-rounds and works programmes have been designed to make them possible.

Works Programme

Main development in 1968 has been continued improvement of channels at the Tamar mouth, the aim being to accommodate ships and bulk carriers with greater drafts than those now handled; this work will continue until 1971 and involves, among other projects, the removal of a large part of Garden Island (it lies two miles downstream from Inspection Head). At Bell Bay, a 25-ton capacity crane is being installed and the wharf deck area is being extended.

In May 1968, the Batman Bridge was opened, thus linking the eastern and western overseas ports on the Tamar.

Change of Name

The Launceston Marine Board controlling the Port of Launceston has recently changed its title and is now known as the Port of Launceston Authority.

Location

Port of Devonport

The Port of Devonport lies close inside the mouth of the Mersey River which, unlike the Derwent and the Tamar, is navigable for only a short distance. The Mersey has a rise and fall of tide approximating nine feet and recent hydrographic survey indicated a maximum tidal flow of 2.1 knots. The river was

always a natural harbour for small craft but its development as an overseas port has required extensive dredging and engineering works, including elimination of the tidal bar.

Description

The original river mouth was approximately three-quarters of a mile wide but this has been narrowed to just over 400 yards by an anti-silting barrier thrown out into the sea from the eastern bank. The overseas berths are located on the western bank about a mile upstream from the river's artificial mouth while the special terminal for the roll-on roll-off vessel *Princess of Tasmania* lies opposite on the eastern bank. The *Princess* has maintained a Bass Strait service based on Devonport since 1959 and its berth includes a wharf, a stern-loading drive-on ramp, an extensive vehicle marshalling area and a spacious terminal building. Thousands of tourists and their vehicles pass through this terminal each year. The *Bass Trader* also maintains a weekly ferry service to the port.

The possibility of further development has not been exhausted; while the main berths have been made along the western bank, there is nearly a mile reserved on the opposite bank for the construction of future wharves.

Works Programme

In 1968, development was still concentrated on an east bank wharf as an outlet for A.P.P.M. Ltd's paper industry at Wesley Vale. This wharf is scheduled for completion by March 1969.

Location

The Port of Burnie

The ports of Hobart, Launceston and Devonport all lie within the shelter of rivers but the Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackmans Point; immediately to the west of the point is a beach on which breaks the short surf of Bass Strait which can produce very rough seas, the nearest land being the Victorian coast 200 miles to the north.

Description

The shelter necessary for all-weather use of the port was provided by a 1,250 foot breakwater anchored to Blackmans Point, and running out to sea with a south-east orientation. The wharves are thus protected by the point and by the breakwater from swells coming in from the west or north, the only two quarters from which heavy seas are feared. Ocean Wharf is constructed immediately in the lee of the breakwater, the two structures appearing as one, and other berths are provided by piers parallel to the breakwater and lying further south.

Future development of the port could not be undertaken without the provision of further protection, and an island breakwater sited north-east from the end of Ocean Wharf has now been constructed. The breakwater, consisting of concrete caissons 1,600 feet long, is oriented south-east and is calculated to give ample protection for up to 2,000 feet of berthage south of existing piers. One interesting feature is the use of the lee of the island breakwater for a tanker berth, the fuel being pumped to land along a submarine pipeline.

In 1961, special facilities were provided to handle the roll-on roll-off vessel *Bass Trader* and the port is also used by the *Empress of Australia* which makes a return voyage to Sydney via Bell Bay and Burnie. (The alternate route worked by the *Empress* is Sydney-Hobart.)

Works Programme

Work in 1968 continued on dredging south of the existing port, the aim being to provide a second roll-on roll-off berth. A new pier, south of Jones Pier, is under construction, rubble from dredging being used to form a bund for it. New railway facilities are being built on reclaimed land.

Port Latta

Construction work on the Savage River iron ore project began in early 1966 and the first overseas exports were made in April 1968 through this new port. Work went on simultaneously at two centres: (i) development of the mines at the Savage River; (ii) development of Port Latta at Brickmakers Bay. The main construction programme required a concentrating plant at the mines, a 51-mile pipeline to pump the watered concentrate to the coast, a pellet-making plant at Port Latta and an offshore terminal in deep water for exporting the pellets.

Cargo of this nature (pellets) is not loaded into small ships and provision had to be made for bulk ore carriers of 60,000 to 90,000 tons capacity; hence deep water was a major consideration. Starting in 1968 about 2.25m tons will be shipped annually.

The loading facility consists of a four-foot wide conveyor belt which carries pellets to two swivel loaders located a mile offshore; here vessels moored in 52 feet of water take on pellets, the system having a discharge capacity of about 3,000 tons per hour.

The port is extremely specialised and designed primarily for export of pellets. Some of the raw materials for use by the Port Latta plant are imported through the adjacent port of Stanley. Port Latta is located in an area coming under the jurisdiction of Circular Head Marine Board.

Constitution of Marine Boards and Harbour Trusts*Introduction*

Relatively early in Tasmania's history, it was decided that the control and operation of any port was best put in the hands of citizens who had a personal interest in its proper management, and, to this end, port administration was deliberately decentralised; the State Government, by legislation, defined the powers and duties of the new authorities it created but the detailed administration, including financial management, was then very much left to the boards and trusts. This is still the position today, government control relating mainly to the approval of borrowing programmes.

Establishment of Boards

Operation of Tasmania's chief ports ceased to be a direct function of the government of the colony in 1857 when legislation was passed to set up the marine boards of Hobart and Launceston. Each board consisted of five wardens; the mayor and the collector of customs were *ex officio* wardens, the remaining three members being appointed as nominees of the respective Chambers of Commerce. In 1867, the Governor was empowered to create other boards, such bodies to consist of three wardens appointed by the Governor; within a year, boards had been constituted under the titles Mersey, Circular Head and Table Cape.

Boards of Hobart and Launceston

The *Marine Boards Act 1889* created a special electorate for the Hobart and Launceston boards, the nine wardens for each to be elected by ship-owners,

importers and exporters. The respective collectors of customs were required to compile annually rolls of these users of the ports and the number of votes each elector could exercise was proportional to his financial interest; for example, an exporter of goods valued \$400 to \$3,999 had one vote, of \$4,000 to \$9,999 two votes, and of over \$10,000, three votes. Importers received similar voting powers in proportion to the wharfage paid while ship owners' votes were proportional to tonnage of their vessels. It was further provided that three wardens should retire annually and the master warden be elected by board members. By an amending Act in 1895, the voting powers of importers were placed on the same basis as those exercised by exporters and were divorced from wharfage paid.

The special electorate just described is still in existence today and continues to elect the wardens of the Hobart Marine Board; the scale of values affecting the number of votes to be exercised by importers and exporters remains unchanged also. However, in the case of Launceston Marine Board, the system of the special electorate was abolished in 1902 and all Launceston citizens on the rolls for the House of Assembly became eligible to cast single votes, a right extended in 1910 to citizens in the other municipalities bordering the Tamar. In 1916, with the adoption of the Hunter scheme for improvements affecting the whole length of the river, changes were made to increase the number of wardens by representatives from the bordering municipalities but the *Marine Act 1921* reduced the number of wardens to five, restricted eligibility for standing as warden to citizens of Launceston and changed the voting qualification so that marine board electors had to be those qualified to vote at an election of aldermen for the City of Launceston. More recently, electors in Beaconsfield and George Town have again been given voting rights.

Constitution of Boards

The present system of appointing or electing wardens is summarised as follows:

Election or Appointment of Port Authorities

| Authority | Number of Wardens | System of Election or Appointment of Wardens |
|---------------------------------|-------------------|---|
| Hobart Marine Board | 9 | Special electorate of ship-owners, importers and exporters. |
| Port of Launceston Authority .. | 5 | Electors of Launceston, Beaconsfield and George Town as for municipal elections |
| Burnie Marine Board | 8 | |
| Devonport Marine Board .. | 11 | |
| Circular Head Marine Board .. | 5 | Municipal electors within proclaimed areas |
| King Island Marine Board .. | 5 | |
| Flinders Island Marine Board .. | 3 | Municipal electors |
| Strahan Marine Board | 4 | Three government nominees and one elected by electors of Queenstown and Strahan |
| Smithton Harbour Trust .. | 5 | Government nominees |

Finances of Marine Boards and Harbour Trusts

The principal sources of revenue of the port authorities are shipping tonnage rates and import and export wharfage rates; other sources are charges for pilotage services and the hiring of equipment. Expenditure is summarised under the heading 'works and services' which includes the provision of ordinary port services (e.g. pilotage, tug assistance, etc.), the maintenance of the port (e.g. dredging, etc.) and the improvement of the port (e.g. new wharfs, new berths, etc.). To the degree that insufficient revenue is available to finance port improvements, the authorities borrow money subject to State Treasury

approval, the Treasury acting on behalf of the Australian Loan Council and implementing its annual agreement as to the approved level of new semi-government authority loans.

The following table shows the combined revenue and loan account transactions for each authority:

**Marine Boards and Harbour Trusts
Receipts and Expenditure—All Funds, 1966-67**
(**\$'000**)

| Particulars | Authority | | | | | | | | | Total |
|-----------------------------------|-----------|------------|-----------|--------|---------------|-------------|---------|-----------------|----------|-------|
| | Hobart | Launceston | Devonport | Burnie | Circular Head | King Island | Strahan | Flinders Island | Smithton | |
| Opening Balance | 1,767 | 787 | 465 | 1,747 | 14 | 42 | 7 | 21 | 6 | 4,857 |
| Receipts— | | | | | | | | | | |
| Revenue Account— | | | | | | | | | | |
| Wharfage Charges | 861 | 675 | 559 | 717 | 13 | 38 | 32 | 15 | .. | 2,910 |
| Hire of Plant and Equipment .. | 309 | 303 | 31 | 170 | .. | 2 | .. | .. | .. | 816 |
| Rents .. | 31 | 99 | 92 | 57 | 3 | .. | 1 | .. | 1 | 284 |
| Other Charges for Services (a) .. | 253 | 169 | 135 | 140 | 3 | 6 | 6 | 2 | .. | 713 |
| Government Subsidy .. | 30 | 15 | .. | 15 | 11 | .. | 1 | .. | .. | 71 |
| Other Receipts (b) .. | 125 | 543 | 47 | 112 | 2 | 1 | 2 | 1 | .. | 833 |
| Total .. | 1,610 | 1,804 | 863 | 1,211 | 32 | 48 | 41 | 18 | 1 | 5,628 |
| Loan Account— | | | | | | | | | | |
| Loan Raisings .. | 200 | 200 | 750 | 1,100 | 60 | .. | .. | .. | .. | 2,310 |
| Other Receipts .. | .. | 4 | .. | .. | .. | .. | .. | .. | .. | 5 |
| Total .. | 200 | 204 | 750 | 1,100 | 60 | .. | .. | .. | .. | 2,315 |
| Total Receipts | 1,810 | 2,008 | 1,613 | 2,311 | 92 | 48 | 41 | 18 | 1 | 7,942 |
| Expenditure— | | | | | | | | | | |
| Revenue Account— | | | | | | | | | | |
| Works and Services .. | 770 | 1,373 | 216 | 300 | 8 | 14 | 17 | 12 | 1 | 2,711 |
| Interest .. | 126 | 158 | 234 | 484 | 9 | 5 | 1 | .. | .. | 1,018 |
| Redemption and Sinking Fund .. | 168 | 101 | 163 | 175 | 13 | 4 | 3 | 1 | .. | 627 |
| Administration .. | 165 | 107 | 92 | 53 | 5 | 17 | 16 | 3 | 1 | 460 |
| Other (c) .. | 123 | 273 | 68 | 44 | 1 | 2 | 4 | 1 | .. | 517 |
| Total .. | 1,352 | 2,012 | 773 | 1,057 | 37 | 42 | 41 | 17 | 2 | 5,333 |
| Loan Account— | | | | | | | | | | |
| Capital Works .. | 200 | 308 | 734 | 861 | 63 | 19 | .. | .. | .. | 2,184 |
| Total Expenditure | 1,552 | 2,320 | 1,506 | 1,918 | 100 | 61 | 41 | 17 | 2 | 7,518 |
| Closing Balance .. | 2,025 | 476 | 572 | 2,139 | 6 | 29 | 7 | 22 | 6 | 5,282 |

(a) Includes dues, tonnage rates, pilotage, mooring and slipway fees, weighbridge revenue and charges for light, power, telephone, water, storage and cleaning.

(b) Includes receipts from sales of assets, interest on investments, and the net receipts of deposit, stores and superannuation accounts.

(c) Includes expenditure on insurance, workers' compensation, superannuation contributions, payroll tax, rents and rates.

r Revised.

The next table summarises the transactions of all Marine Boards and Harbour Trusts:

**Marine Boards and Harbour Trusts
Receipts and Expenditure—All Funds
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|---------|---------|---------|---------|---------|
| Opening Balance | 3,868 | 5,485 | r 4,538 | r 4,241 | r 4,857 |
| Receipts— | | | | | |
| Revenue Account | 4,469 | 5,046 | 5,060 | 5,542 | 5,628 |
| Loan Account— | | | | | |
| Loan Raisings | 2,167 | 2,631 | 2,842 | 2,055 | 2,310 |
| Other Receipts | 6 | 11 | 104 | 37 | 5 |
| Total Receipts | 6,642 | 7,688 | 8,006 | 7,633 | 7,942 |
| Expenditure— | | | | | |
| Revenue Account— | | | | | |
| Works and Services | 1,485 | 1,294 | 2,255 | 2,557 | 2,711 |
| Interest | 939 | { 655 | 792 | 928 | 1,018 |
| Redemption & Sinking Fund | | { 590 | 509 | 576 | 627 |
| Administration | 365 | 400 | 408 | 465 | 460 |
| Other | 777 | 1,311 | 1,050 | 622 | 517 |
| Total | 3,566 | 4,250 | 5,014 | 5,148 | 5,333 |
| Loan Account— | | | | | |
| Capital Works | 1,459 | 4,364 | 3,290 | 1,846 | 2,184 |
| Total Expenditure | 5,025 | 8,614 | 8,304 | 6,994 | 7,518 |
| Closing Balance | 5,485 | 4,559 | 4,240 | 4,880 | 5,282 |

r Revised.

Loan Debt and Borrowing

The loan debt of the Marine Boards and Harbour Trusts has increased substantially in recent years. The following table shows the growth of this debt in total and gives individual details for the four principal authorities:

**Marine Boards and Harbour Trusts
Loan Debt of Principal Authorities At End of Year
(\$'000)**

| Authority | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|------------------|---------|-----------|-----------|-----------|-----------|-----------|
| Hobart | 2,404 | 2,768 | 2,866 | 2,700 | 2,527 | 2,559 |
| Launceston | 1,583 | 1,684 | 2,215 | 2,783 | 2,888 | 2,995 |
| Devonport | 2,625 | (a) 2,928 | (a) 3,415 | (a) 3,886 | (a) 4,142 | (a) 4,734 |
| Burnie | 3,955 | 5,050 | 5,984 | 7,473 | 8,766 | 9,740 |
| Other | 326 | 241 | 257 | 260 | 295 | 334 |
| State Total .. | 10,893 | 12,671 | 14,737 | 17,102 | 18,617 | 20,361 |

1962-63
 2,768
 + 3,995
 5,766
 10,787
 664
 24,376

(a) Includes debt of Ulverstone Harbour Trust, the port having been taken over by Devonport Marine Board from 1 January 1963.

At 30 June 1967, the loan debt of each authority was: Hobart, \$2,558,900; Launceston, \$2,994,900; Devonport, \$4,733,700; Burnie, \$9,740,400; Circular Head, \$215,100; King Island, \$92,000; Strahan, \$24,600; Flinders, \$1,800. Smithton Harbour Trust had no debt.

The next table shows a summary of annual borrowings and analyses the aggregate debt according to creditor:

**Marine Boards and Harbour Trusts
Loan Raisings, Loan Debt and Sinking Funds
(\$'000)**

| Year | Loan Raisings During Financial Year | | | Loan Debt at End of Financial Year | | | Total of Sinking Funds at End of Financial Year (a) |
|---------|-------------------------------------|--------------------|-------|------------------------------------|--------------------|--------|---|
| | From State Govt | From Other Sources | Total | To State Govt | To Other Creditors | Total | |
| 1956-57 | .. | 524 | 524 | 87 | 5,334 | 5,421 | 28 |
| 1957-58 | .. | 648 | 648 | 68 | 5,806 | 5,874 | 27 |
| 1958-59 | .. | 1,125 | 1,125 | 22 | 6,723 | 6,745 | .. |
| 1959-60 | .. | 1,552 | 1,552 | 20 | 8,019 | 8,039 | .. |
| 1960-61 | .. | 1,560 | 1,560 | 18 | 9,280 | 9,298 | .. |
| 1961-62 | .. | 1,930 | 1,930 | 16 | 10,877 | 10,893 | 7 |
| 1962-63 | .. | 2,167 | 2,167 | .. | 12,671 | 12,671 | 24 |
| 1963-64 | .. | 2,631 | 2,631 | .. | 14,737 | 14,737 | 53 |
| 1964-65 | .. | 2,842 | 2,842 | .. | 17,102 | 17,102 | 85 |
| 1965-66 | .. | 2,055 | 2,055 | .. | 18,617 | 18,617 | 124 |
| 1966-67 | .. | 2,310 | 2,310 | .. | 20,361 | 20,361 | 182 |

(a) Sinking funds maintained by boards and trusts for debt redemption purposes.

SHIPPING AT TASMANIAN PORTS

In 1966-67, a new system of recording shipping movements was introduced. The new data are not comparable with those shown in the following tables; accordingly 1966-67 data are shown in Appendix C at end of book.

System of Record (Pre-1966-67)

Vessels using Tasmanian ports can be thought of as overseas, interstate or intra-state but their inward and outward movement, in the tables that follow, is classified according to the type of voyage and not according to the type of vessel. The following shows the manner in which voyages are described (both arrivals, 'entries', and departures, 'clearances'):

| Type of Voyage | | |
|--|--|---------------------|
| Overseas Vessels | Interstate Vessels | Intra-state Vessels |
| (i) Overseas Direct | | |
| (ii) Overseas via Other State (a) | | |
| (iii) Overseas via Ports in same State | | |
| (iv) Interstate Direct (a) | (iv) Interstate Direct | |
| (v) Interstate via Ports in same State | (v) Interstate via Ports in same State | |
| (vi) Intra-state | (vi) Intra-state | (vi) Intra-state |

(a) For definition of this term, see the table that follows.

To show the total entries and clearances for any individual port, it is necessary to add all categories from (i) to (vi) inclusive for each type of vessel. However, to show the total entries and clearances for a State, and for the result to reflect the volume of the State's shipping relations with other States and overseas countries, it is necessary to add only categories (i), (ii) and (iv) for overseas and interstate vessels. Finally, to show the entries and clearances affecting Australia's shipping relations with other countries, only category (i) should be taken into account.

In the tables that follow, the term 'Overseas and Interstate' is used to indicate that the movements described are restricted to categories (i), (ii) and (iv) for overseas and interstate vessels. The classifications are applied in such a way that, in terms of categories (i), (ii) and (iv), ships are included as arrivals at the *first* Tasmanian port of call only, and departures only at the *last* port of call in Tasmania, i.e. the coastal movement of shipping is excluded.

Categories Illustrated

The term 'interstate direct' is applied to the movements of overseas vessels in certain circumstances and the next table illustrates the system of classification, a hypothetical vessel being engaged on a London-Sydney-London voyage:

Itinerary of an Overseas Vessel on the Australian Coast

| Particulars of London-Sydney-London Voyage | Recorded as— | | |
|---|---------------------------------|-----------------------|------------------------------------|
| | For State and for Australia (a) | For the States (a) | |
| Vessel with Sydney as final port of call— Enters Melbourne from U.K. | Overseas direct (V) | Interstate direct (V) | Overseas via other States (T) |
| Clears Melbourne for Hobart | | Interstate direct (T) | Overseas via other States (N.S.W.) |
| Enters Hobart from Melbourne | | Interstate direct (T) | Overseas via other States (N.S.W.) |
| Clears Hobart for Sydney | | Interstate direct (V) | Overseas via other States (T) |
| Enters Sydney from Hobart | | | |
| Same vessel returning to U.K.— Clears Sydney for Hobart | | | |
| Enters Hobart from Sydney | | | |
| Clears Hobart for Melbourne | | | |
| Enters Melbourne from Hobart | | | |
| Clears Melbourne for U.K. | Overseas direct (V) | | |

(a) Letters in brackets indicate the State recording the entry or clearance.

In the case of an interstate ship making a round voyage, Melbourne-Hobart-Launceston-Devonport-Melbourne, only the entrance into Hobart and the departure from Devonport would be classified in Tasmanian records as 'Interstate Direct', the remaining movements being classified as 'Interstate via Ports in same State'.

Tonnage of Vessels

The size of a vessel may be expressed as: (i) gross tonnage, i.e. the total volume of enclosed space converted at one ton per 100 cubic feet; (ii) net tonnage, i.e. the enclosed volume of cargo or passenger space similarly converted at 100 cubic feet per ton; (iii) deadweight tonnage, i.e. the weight the vessel can carry, including bunkers and stores, expressed in tons of 2,240 lb (or, more technically, the difference from the displacement light to the displacement when loaded to the summer deadline). *Net tonnage* is the concept generally used in the tables in this section, but since it can give a misleading

impression of the size of ships which have a function other than carrying passengers and cargo (e.g. a tug has no net tonnage), some figures are given for deadweight tons and tons gross also.

Overseas and Interstate Shipping (Pre-1966-67)

The following table shows the total annual number of vessels entering Tasmanian ports, and their net tonnage. The figures are restricted to entries classified as 'overseas and interstate' and exclude coastal movements.

**Shipping—Overseas and Interstate (a)
Total Vessels Entering Tasmanian Ports**

| Year | Vessels Entered | | Year | Vessels Entered | |
|------------|-----------------|-----------|------------|-----------------|-----------|
| | Number | Net Tons | | Number | Net Tons |
| 1954-55 .. | 1,081 | 1,619,692 | 1960-61 .. | 1,354 | 2,546,476 |
| 1955-56 .. | 1,030 | 1,585,547 | 1961-62 .. | 1,533 | 3,042,052 |
| 1956-57 .. | 1,161 | 1,737,334 | 1962-63 .. | 1,614 | 3,473,984 |
| 1957-58 .. | 1,241 | 1,872,012 | 1963-64 .. | 1,508 | 3,346,157 |
| 1958-59 .. | 1,257 | 1,966,301 | 1964-65 .. | 1,472 | 3,411,793 |
| 1959-60 .. | 1,308 | 2,287,182 | 1965-66 .. | 1,645 | 3,886,522 |

(a) For definition, see 'System of Record' at the beginning of this section.

In the introduction, 'System of Record', it was indicated that overseas and interstate shipping included three categories of voyages, namely overseas direct, overseas via other Australian States and interstate direct. The next table shows entries and clearances in terms of these three categories. Examination of the figures shows that very few vessels from overseas make Tasmania their first Australian State to visit.

**Shipping—Overseas and Interstate
Total Vessels Entering and Clearing Tasmanian Ports**

| Classification of Entry | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 |
|-------------------------|---------|---------|---------|---------|---------|
| ENTERED—NUMBER | | | | | |

| | | | | | |
|--|-------|-------|-------|-------|-------|
| Overseas Direct .. | 72 | 83 | 81 | 83 | 123 |
| Overseas via Other Australian States | 238 | 331 | 296 | 238 | 264 |
| Interstate Direct (a) | 1,223 | 1,200 | 1,131 | 1,151 | 1,258 |
| Total | 1,533 | 1,614 | 1,508 | 1,472 | 1,645 |

ENTERED—NET TONS ('000)

| | | | | | |
|--|-------|-------|-------|-------|-------|
| Overseas Direct .. | 268 | 288 | 275 | 281 | 331 |
| Overseas via Other Australian States | 1,099 | 1,447 | 1,352 | 994 | 1,092 |
| Interstate Direct (a) | 1,675 | 1,739 | 1,719 | 2,137 | 2,464 |
| Total | 3,042 | 3,474 | 3,346 | 3,412 | 3,887 |

Shipping—Overseas and Interstate
Total Vessels Entering and Clearing Tasmanian Ports—*continued*

| Classification of Entry | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 |
|--|---------|---------|---------|---------|---------|
| Cleared—Number | | | | | |
| Overseas Direct | 28 | 49 | 44 | 58 | 101 |
| Overseas via Other Australian States | 247 | 314 | 295 | 271 | 311 |
| Interstate Direct (a) | 1,278 | 1,260 | 1,148 | 1,174 | 1,263 |
| Total | 1,553 | 1,623 | 1,487 | 1,503 | 1,675 |
| Cleared—Net Tons ('000) | | | | | |
| Overseas Direct | 135 | 199 | 189 | 237 | 296 |
| Overseas via Other Australian States | 1,101 | 1,341 | 1,294 | 1,066 | 1,252 |
| Interstate Direct (a) | 1,781 | 1,906 | 1,782 | 2,169 | 2,570 |
| Total | 3,017 | 3,446 | 3,265 | 3,472 | 4,118 |

(a) Includes both overseas and interstate vessels proceeding 'interstate direct'.

The next table has been compiled to show the dissection of the previous arrivals according to individual Tasmanian ports. The figures for the ports do not include all arrivals but only such as are included in the categories appropriate to 'overseas and interstate'.

**Shipping—Overseas and Interstate
Vessels Entering Each Tasmanian Port**

| Port (a) | 1961-62 | | 1962-63 | | 1963-64 | | 1964-65 | | 1965-66 | |
|----------------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) |
| Hobart | 494 | 1,331 | 475 | 1,215 | 454 | 1,172 | 438 | 1,122 | 460 | 1,259 |
| Launceston | 307 | 583 | 368 | 786 | 307 | 762 | 321 | 869 | 350 | 1,060 |
| Burnie | 206 | 484 | 244 | 759 | 282 | 749 | 266 | 746 | 362 | 822 |
| Currie | 101 | 18 | 103 | 26 | 66 | 10 | 67 | 10 | 100 | 21 |
| Devonport | 330 | 572 | 327 | 631 | 316 | 598 | 312 | 613 | 322 | 686 |
| Smithton | 8 | 1 | 6 | 1 | 7 | 1 | .. | .. | .. | .. |
| Stanley | 13 | 9 | 22 | 12 | 19 | 11 | 23 | 17 | 15 | 11 |
| Strahan | 54 | 42 | 55 | 42 | 56 | 43 | 45 | 34 | 36 | 28 |
| Ulverstone (b) | 19 | 2 | 13 | 2 | .. | .. | .. | .. | .. | .. |
| Lady Barron | 1 | (c) | 1 | (c) | 1 | (c) | .. | .. | .. | .. |
| Total | 1,533 | 3,042 | 1,614 | 3,474 | 1,508 | 3,346 | 1,472 | 3,412 | 1,645 | 3,887 |

(a) The names of the ports refer to the towns in which the controlling Marine Boards and Harbour Trusts were located.

(b) As from January 1963, the port of Ulverstone came under control of Devonport Marine Board but its shipping was recorded separately for 1962-63.

(c) Under 500 tons.

The shipping movements shown in the previous table do not represent the total shipping entering each port; to obtain this total it is necessary to add in

the movement of vessels engaged in coastal and in purely intra-state voyages. The following table, compiled on this expanded basis, shows total shipping entering each Tasmanian port for a five-year period:

**Shipping—Overseas, Interstate and Intra-State
Vessels Entering Each Tasmanian Port**

| Port (a) | 1961-62 | | 1962-63 | | 1963-64 | | 1964-65 | | 1965-66 | |
|-------------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) |
| Hobart .. | 577 | 1,520 | 591 | 1,382 | 546 | 1,362 | 535 | 1,325 | 547 | 1,449 |
| Launceston .. | 604 | 796 | 580 | 987 | 512 | 904 | 532 | 1,009 | 548 | 1,194 |
| Burnie .. | 365 | 686 | 393 | 980 | 402 | 929 | 402 | 1,054 | 491 | 1,294 |
| Currie .. | 214 | 25 | 185 | 32 | 134 | 21 | 138 | 24 | 149 | 31 |
| Devonport .. | 428 | 668 | 403 | 720 | 401 | 688 | 407 | 701 | 388 | 768 |
| Smithton .. | 10 | 1 | 10 | 1 | 14 | 1 | .. | .. | .. | .. |
| Stanley .. | 94 | 50 | 106 | 44 | 81 | 36 | 46 | 27 | 26 | 18 |
| Strahan .. | 57 | 43 | 60 | 46 | 62 | 48 | 57 | 43 | 47 | 36 |
| Ulverstone (b) .. | 61 | 6 | 57 | 5 | .. | .. | .. | .. | .. | .. |
| Lady Barron .. | 123 | 8 | 150 | 13 | 146 | 15 | 118 | 11 | 145 | 15 |

(a) Location of controlling Marine Board or Harbour Trust.

(b) As from January 1963, the port of Ulverstone came under control of Devonport Marine Board but its shipping was recorded separately for 1962-63.

Cargo Shipped and Discharged (Pre-1966-67)

Most of the cargo handled in the ports is recorded in terms of tons of 2,240 lb. However, some additional cargo, mainly bulky commodities, is shipped and recorded on the basis of each 40 cubic feet of space used representing one ton measurement. As totals derived from conversion to a common weight, or alternatively, to a common volume, would not be accurate, entries in each of the two units are recorded and published separately.

The following table gives a summary of cargo discharged and shipped in overseas and interstate trade:

**Cargo Shipped and Discharged
All Tasmanian Ports—Overseas and Interstate Shipping**

| Year | Discharged | | | | Shipped | | | |
|------------|--------------------|--------------------------|--------------------|--------------------------|--------------------|--------------------------|--------------------|--------------------------|
| | Overseas | | Interstate | | Overseas | | Interstate | |
| | Tons Weight ('000) | Tons Measure-ment ('000) |
| 1960-61 .. | 367 | 26 | 769 | 501 | 105 | 138 | 383 | 569 |
| 1961-62 .. | 252 | 29 | 721 | 511 | 163 | 180 | 401 | 466 |
| 1962-63 .. | 301 | 46 | 1,015 | 439 | 204 | 141 | 583 | 468 |
| 1963-64 .. | 326 | 43 | 1,033 | 449 | 154 | 253 | 630 | 384 |
| 1964-65 .. | 389 | 72 | 1,015 | 597 | 195 | 198 | 662 | 518 |
| 1965-66 .. | 336 | 35 | 1,097 | 709 | 203 | 216 | 637 | 530 |

In the next table, details are shown of the cargo handled at the individual ports. The classification 'overseas' and 'interstate' relates either to the origin or destination of the cargo.

Cargo Shipped and Discharged
Individual Tasmanian Ports—Overseas and Interstate Shipping, 1965-66

| Port | Overseas | | Interstate | | Total | |
|-------------------|--------------------------|------------------------------------|--------------------------|------------------------------------|--------------------------|------------------------------------|
| | Tons Weight ('000) | Tons Measure- ment ('000) | Tons Weight ('000) | Tons Measure- ment ('000) | Tons Weight ('000) | Tons Measure- ment ('000) |
| DISCHARGED | | | | | | |
| Hobart .. . | 148 | 24 | 243 | 228 | 391 | 252 |
| Launceston .. . | 128 | 9 | 384 | 150 | 512 | 159 |
| Burnie .. . | 55 | 1 | 325 | 18 | 380 | 19 |
| Currie .. . | .. . | .. | 21 | .. | 21 | .. |
| Devonport .. . | 4 | .. | 105 | 313 | 109 | 313 |
| Smithton .. . | .. . | .. | .. | .. | .. | .. |
| Stanley .. . | .. . | .. | 5 | .. | 5 | .. |
| Strahan .. . | .. . | .. | 14 | .. | 14 | .. |
| Total .. . | 336 | 35 | 1,097 | 709 | 1,432 | 743 |
| SHIPPED | | | | | | |
| Hobart .. . | 122 | 163 | 181 | 115 | 303 | 278 |
| Launceston .. . | 37 | 14 | 129 | 90 | 166 | 104 |
| Burnie .. . | 39 | 21 | 184 | 47 | 223 | 68 |
| Currie .. . | .. . | .. | 10 | .. | 10 | .. |
| Devonport .. . | 4 | 18 | 69 | 278 | 73 | 296 |
| Smithton .. . | .. . | .. | .. | .. | .. | .. |
| Stanley .. . | .. . | .. | 10 | .. | 10 | .. |
| Strahan .. . | .. . | .. | 55 | .. | 55 | .. |
| Total .. . | 203 | 216 | 637 | 530 | 840 | 746 |

Vessels on Tasmanian Registers

The *Merchant Shipping Act* (Federal) under which vessels are registered in Australia, does not make it compulsory to register vessels under 15 tons burden if engaged in river or coastal trade.

The following table shows the number and tonnage of Tasmanian vessels on register:

Total Vessels on Registers—Tasmania

| Year Ended 31 December | Steam | | Motor (including Auxiliary) | | Sailing | | Dredges and Hulks, etc., Not Self- Propelled | | Total | |
|------------------------------|-------|-------------|-----------------------------------|-------------|---------|-------------|---|-------------|-------|-------------|
| | No. | Net Tons | No. | Net Tons | No. | Net Tons | No. | Net Tons | No. | Net Tons |
| | | | | | | | | | | |
| 1961 .. . | 23 | 2,122 | 135 | 14,004 | 42 | 693 | 3 | 690 | 203 | 17,509 |
| 1962 .. . | 23 | 2,122 | 138 | 14,037 | 42 | 693 | 3 | 690 | 206 | 17,542 |
| 1963 .. . | 23 | 2,122 | 143 | 14,329 | 42 | 693 | 3 | 690 | 211 | 17,834 |
| 1964 .. . | 23 | 2,122 | 152 | 16,682 | 42 | 510 | 3 | 690 | 220 | 20,004 |
| 1965 .. . | 21 | 2,060 | 154 | 16,724 | 41 | 507 | 3 | 690 | 219 | 19,981 |
| 1966 .. . | 21 | 2,060 | 159 | 16,838 | 41 | 507 | 3 | 690 | 224 | 20,095 |

Registration of Shipping (Pre-1966-67)

The following table shows the country of registration of the vessels entering all Tasmanian ports:

**Country of Registration of Shipping
Vessels Entering All Tasmanian Ports—Overseas and Interstate**

| Vessels Registered At Ports In— | 1961-62 | | 1962-63 | | 1963-64 | | 1964-65 | | 1965-66 | |
|------------------------------------|---------|-----------------------|---------|-----------------------|---------|-----------------------|---------|-----------------------|---------|-----------------------|
|  | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) | No. | Net Tons ('000) |
| Australia .. | 1,122 | 1,177 | 1,097 | 1,235 | 1,051 | 1,287 | 1,039 | 1,632 | 1,191 | 2,157 |
| Belgium-Lux. .. | .. | .. | .. | .. | .. | .. | 1 | 5 | .. | .. |
| Denmark .. | 18 | 75 | 23 | 113 | 12 | 41 | 9 | 31 | 7 | 16 |
| France .. | 1 | 4 | 1 | 4 | 2 | 7 | .. | .. | .. | .. |
| Germany, West .. | 24 | 78 | 33 | 97 | 16 | 58 | 22 | 84 | 16 | 59 |
| Greece .. | 1 | 3 | 2 | 10 | 5 | 28 | 3 | 10 | 7 | 46 |
| Hong Kong .. | 8 | 30 | 9 | 39 | 4 | 18 | 8 | 29 | 1 | 4 |
| India .. | 4 | 17 | 6 | 19 | 3 | 11 | 6 | 19 | 4 | 15 |
| Italy .. | 4 | 24 | 2 | 15 | 3 | 39 | 1 | 6 | 1 | 4 |
| Japan .. | 4 | 18 | 12 | 16 | 13 | 14 | 8 | 22 | 52 | 76 |
| Liberia .. | 1 | 8 | 11 | 68 | 2 | 13 | 8 | 52 | 5 | 20 |
| Malaysia .. | 4 | 12 | 3 | 10 | 2 | 5 | 3 | 7 | 1 | 3 |
| Netherlands .. | 34 | 106 | 47 | 120 | 51 | 147 | 57 | 142 | 58 | 145 |
| New Zealand .. | 18 | 26 | 22 | 36 | 29 | 56 | 25 | 46 | 24 | 39 |
| Norway .. | 44 | 198 | 54 | 255 | 34 | 170 | 36 | 169 | 32 | 129 |
| Panama .. | 11 | 70 | 4 | 22 | 3 | 21 | 2 | 9 | 9 | 26 |
| Philippines .. | .. | .. | 1 | 5 | 1 | 5 | 1 | 5 | .. | .. |
| Poland .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 4 |
| Sweden .. | 35 | 128 | 42 | 166 | 35 | 141 | 30 | 118 | 39 | 143 |
| United Kingdom .. | 187 | 1,005 | 221 | 1,168 | 231 | 1,227 | 197 | 953 | 183 | 937 |
| U.S.A. .. | 10 | 49 | 22 | 71 | 10 | 52 | 11 | 53 | 11 | 53 |
| U.S.S.R. .. | .. | .. | .. | .. | .. | .. | 2 | 5 | .. | .. |
| Other Countries .. | 3 | 14 | 2 | 5 | 1 | 6 | 3 | 15 | 3 | 11 |
| Total .. | 1,533 | 3,042 | 1,614 | 3,474 | 1,508 | 3,346 | 1,472 | 3,412 | 1,645 | 3,887 |

TRANSPORT COMMISSION**Origin of Commission**

The State railways were operating at a considerable loss in the period following World War I and this difficulty was accentuated by the increasing use of commercial road transport. The 1938 report of the Commonwealth Grants Commission contained the following comment: 'A large State may conceivably stand the cost of duplicated transport, but it is obvious that Tasmania cannot. We believe that the Tasmanian Government appreciates this position and it can only be met by initiative and decision'. At the time of this report, railways were controlled by a Minister, motor vehicle registration and licensing of drivers were Police Department functions and public vehicle licensing was administered by a Transport Committee drawn from several departments.

Following an enquiry, Parliament passed the *Transport Act 1938* establishing a new authority headed by a Commissioner and two Associate Commissioners, the associates now being the General Manager of the Railways and the Administrator of Road Transport. This Act and subsequent amending legislation had the effect of creating an administrative authority unique in Australia because the management and control of all public transport, with minor exceptions, became the responsibility of one central authority (govern-

ment omnibus services in Hobart, Launceston and Burnie and the privately-owned Emu Bay Railway are the exceptions). Its functions are:

- (i) the control and management of the Government railways;
- (ii) the regulation and licensing of commercial road transport (i.e. of 'public vehicles');
- (iii) the registration and taxation of motor vehicles and the licensing of drivers;
- (iv) the control and operation of Government intra-state ferries and shipping services;
- (v) the control and operation of its own road transport services (passengers); *these services ceased operating in 1968-69 by a decision of the Parliament;*
- (vi) the administration of regulations under the *Traffic Act* concerning road traffic control;
- (vii) the administration and control of State aerodromes;
- (viii) traffic engineering associated with the control of traffic.

In brief, the Transport Commission emerges as a *businesses undertaking*, an *administrative body* and a *taxing authority*.

Control of Commission

The Commission, by Section 6 (2) of the Act, is absolutely free from political control except that the Minister for Transport may, under Section 33, appeal to the Governor if dissatisfied with decisions of the Commission. Section 34 allows the Governor, as a form of assistance to industry in certain cases, to direct the Commission to reduce freight charges but, to the extent that such direction causes a revenue loss, the Treasurer is obliged to re-imburse the Commission; the formula for re-imbursement requires either acceptance of the Commission's original charges as the economic cost of the service or substitution of the Auditor General's calculation of the economic cost, should the level of the Commission's original charges be a matter of dispute.

Commission's Financial Operations

The revenue of the Commission comes from three main sources:

- (1) own business undertakings—railways, road transport services, shipping services and an engineering plant ('tool annexe');
- (2) taxation and licensing receipts—motor vehicle taxation and registration, drivers' licence fees and fees related to public vehicles control;
- (3) grants from Consolidated Revenue, including proceeds of State land tax.

The financial transactions of the Commission are summarised in the tables that follow. For simplicity of presentation, the transactions are arranged in two sets of accounts, firstly Trading and Profit and Loss, secondly Taxation, Licensing, etc. It should be noted that the net loss in the trading and profit and loss account for any year becomes a charge on Consolidated Revenue in the following year; also, that the proceeds from motor taxation, registration, licensing, etc. are passed to Consolidated Revenue, the Commission being re-imbursed the costs of collecting such revenues and the costs and expenses incurred in connection with the control of, and the provision of facilities for, motor traffic. A distinction is drawn, however, between public vehicle fees and public vehicle licensing; the latter charges are taken into the profit and loss account as an offset against net trading loss.

The amounts paid into Consolidated Revenue by the Commission are transferred by the Treasurer into the State Highway Trust Fund, thereby providing that taxes and charges levied on motorists and commercial road transport shall be devoted to road construction and road maintenance.

**Transport Commission—Trading and Profit and Loss Account
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| REVENUE | | | |
| Railways | 5,752 | 6,175 | 6,889 |
| Road Transport Services | 441 | 416 | 424 |
| Marine Services | 152 | 167 | 174 |
| Tool Annexe | 217 | 252 | 265 |
| Land Tax | 1,678 | 2,029 | 2,108 |
| Public Vehicle Licensing (by Transfer) | 85 | 76 | 78 |
| Other Revenue | 78 | 77 | 89 |
| Net Loss (a) | 1,127 | 751 | 882 |
| Total | 9,530 | 9,943 | 10,909 |
| EXPENDITURE (b) | | | |
| Railways | 7,404 | 7,752 | 8,599 |
| Road Transport Services | 408 | 415 | 410 |
| Marine Services | 222 | 183 | 222 |
| Tool Annexe | 203 | 228 | 239 |
| General, including Administration | 276 | 299 | 315 |
| Interest | 1,018 | 1,067 | 1,125 |
| Total | 9,530 | 9,943 | 10,909 |

(a) To be charged against Consolidated Revenue in following year.

(b) Provisions for depreciation included in each item (excluding interest).

The remaining transactions can be summarised as follows (road safety accounts are excluded):

**Transport Commission—Motor Taxation Collection, Licensing, etc.
(\$'000)**

| Particulars | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|
| REVENUE | | | |
| Motor Tax | 2,837 | 2,991 | 3,563 |
| Public Vehicle Licensing, Fees, etc. | 347 | 359 | 391 |
| Registrations, Licences, etc. | 780 | 910 | 1,048 |
| Refunds | — 27 | — 27 | — 35 |
| Total | 3,937 | 4,233 | 4,967 |
| EXPENDITURE | | | |
| Profit and Loss Account (Transfer) (a) | 85 | 76 | 78 |
| Paid to Consolidated Revenue (b) | 3,153 | 3,425 | 3,961 |
| Administration, Traffic Control, etc. | 699 | 732 | 928 |
| Total | 3,937 | 4,233 | 4,967 |

(a) Receipts from public vehicle licensing paid into profit and loss account.

(b) For payment to State Highway Trust Fund.

Annual Loss

In the profit and loss account, State land tax is taken as a revenue item, thus reducing the net loss. In effect, the Commission receives annually two grants from the State, firstly all collections of land tax and secondly, reimbursement of the previous year's net loss. The actual burden on Consolidated Revenue, over the last three years on this basis, has been: 1964-65, \$2,489,587; 1965-66, \$3,156,084; 1966-67, \$2,859,494. The accounts reveal that the loss occurs principally in respect of railways but the case for continued subsidisation is argued on a number of grounds:

- (1) abandonment of all railway operations would still leave the State with liability for annual debt charges exceeding \$1,000,000;
- (2) heavy bulk freights now carried by rail would rapidly break up present road surfaces if they were transferred to road haulage; considerable sums would have to be spent in increased roads maintenance or road improvements;
- (3) for certain types of freight, rail transport is still considered more economical than road haulage; closing the railways might add appreciably to the costs of many primary and secondary producers.

The previous table shows the Commission's road transport services operating with an excess of revenue over expenditure but it should be noted that the item 'interest' is not allocated to the various functions. With interest taken into account, road transport services experienced a loss of \$23,044 in 1965-66 and \$10,961 in 1966-67. Parliamentary approval for continuance of these services could not be obtained and they are to cease operating before 1969.

Public Vehicle Licensing

The following types of licence are issued by the Commission to operators of public vehicles:

- Aircraft:* for aircraft used as public vehicles on intra-state journeys.
- Coach:* for vehicles used for the carriage of passengers and goods between places along a specified route.
- Omnibus:* for vehicles seating more than eight passengers and operating within a specified area.
- Cab:* for vehicles seating eight or less passengers and operating within a specified area (i.e. plying or standing for hire).
- Hire-Car:* for vehicles seating eight or less passengers and operating between any places in the State; also for the same vehicles standing or plying for hire within a specified area.
- Carrier:* for vehicles engaged in carriage of goods between places on a specified route.
- Cart:* for vehicles engaged in the carriage of goods within a specified area. (Despite the word 'cart', the licence applies to motor driven vehicles.)
- Ancillary:* for vehicles engaged in the carriage of goods in the course of the trade or business of the owner (excluding farmers, general 'carters' and 'carriers'). Such licences apply to operation within a specified area.

Licences are issued for three-year periods for all public vehicles except those classed as ancillary or hire-car, in which case annual renewal is required. The decision of the Commission to grant or refuse a licence, or to impose conditions or restrictions on a licence, is subject to appeal to the Public Vehicle Licensing Appeal Tribunal. The factors considered by the Commission in issuing a licence include:

(1) suitability of the routes over which the applicant proposes to provide the service; (2) the extent to which the needs of the proposed routes, traffic areas, or districts, are already adequately served; (3) the extent to which the proposed service is necessary or desirable in the public interest; (4) the traffic needs of the district or traffic area, including provision of adequate and efficient services, the elimination of unnecessary and unremunerative services, and the co-ordination of all forms of transport with rail; (5) the condition of the roads over which the proposed service is to be provided; (6) the fitness of the applicant to hold the licence.

Public Vehicle Control

For the purposes of transport control, Tasmania is divided into eight traffic areas so designed that competitive operations of vehicles licensed for one area only are confined to short hauls. From the earlier section on licensing, the following classification emerges:

- (1) licensed for one traffic area only: cabs, omnibuses, 'carts' and ancillary vehicles;
- (2) licensed for specified routes: coaches and carriers;
- (3) licensed for whole State: hire-cars.

Vehicles licensed for a specific traffic area cannot be used outside it without first obtaining a permit for which out-of-area fees are payable as determined by the Commission. The *Traffic Act* provides for maximum permit fees, in relation to goods vehicles, of 0.4c per cwt of unladen weight for each mile over which the goods are carried. However, the maximum charge determined by the Commission is 0.3333c per cwt. Thus, for a vehicle of an unladen weight of three tons engaged on an out-of-area journey of 120 miles, the permit fee would be \$24 (i.e. 0.3333c x 60 x 120). If goods are carried on the return journey, a further permit fee is payable. In the example quoted, the permit fee at 20 cents per mile virtually doubles the cost of operating the vehicle; it is sufficiently high to prevent most licence holders from travelling outside their area in competition with the railways or with licensed carrier services.

Rebates

In actual fact, it is not always necessary for operators to pay full permit fees as described in the previous paragraph since percentage rebates on full fees may be claimed. Such rebates have relation to the suitability of the goods for transport by rail or licensed carrier and are greatest for certain perishable goods; in general, the shorter the journey, the greater the rebate percentage.

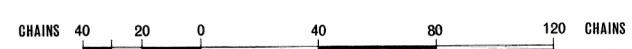
Nominal Fees

The policy of the Commission is to avoid unnecessary duplication of transport, and full fees are charged if the goods in question can be handled as conveniently and efficiently by rail or by an existing licensed carrier service. The Commission grants permits at nominal fees of \$1.00 per trip up to 50 miles and \$2.00 per trip over 50 miles if it is satisfied that road transport is more suitable for any of the following reasons: (1) the dimensions of the load are outside railway clearance; (2) the perishable nature of the goods makes them unsuitable for rail transport; (3) time element; (4) shortage of rail waggons; (5) unreasonably high cost of rail transport compared with road transport, because of extra handling or other reasons; (6) special circumstances.

It is estimated that less than a third of out-of-area trips are at full fees, the balance being for nominal fees or at rebates from 30 to 80 per cent of the full fee.

NORTH CENTRAL STATISTICAL DIVISION

SCALE



REFERENCE

Statistical Division boundaries

*Local Government Area Boundaries

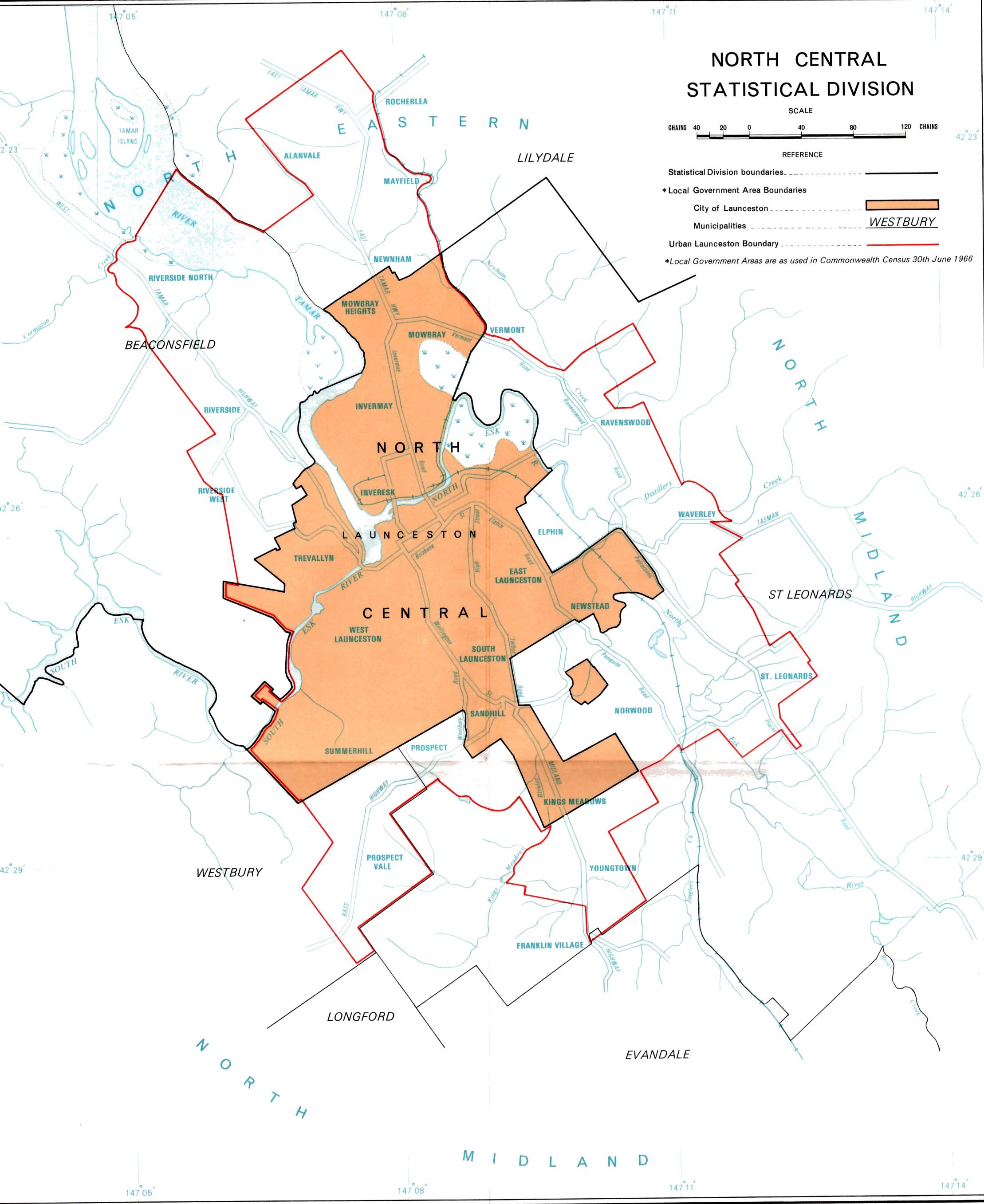
City of Launceston

Municipalities

Urban Launceston Boundary

WESTBURY

*Local Government Areas are as used in Commonwealth Census 30th June 1966



Ancillary Vehicles

In particular circumstances and where small vehicles frequently travel beyond their licensed areas, an annual fee is charged, the fee being determined in accordance with the degree of competition with rail and licensed carrier services. In all other cases, vehicles licensed as an 'ancillary' are required to obtain out-of-area permits for each loaded journey undertaken beyond the limits of the licensed area.

Passenger Vehicles

Commercial passenger vehicles operating out-of-area may be competing with existing rail or licensed coach services, in which case they can be charged fees at a maximum of 0.5c per passenger seat per mile. If no such competition exists, out-of-area fees are charged at \$0.50 for each 25 miles; in the case of round trips, the mileage is halved in applying the charge formula.

Percentage Fees—Coaches and Carriers

Coaches and carriers receiving licences to operate over routes which extend beyond one traffic area are required to pay a percentage tax on annual revenue, the extent of the tax being proportional to the assessed competition with rail services. The Commission's own road passenger services, by the provisions of the Act, are required to pay the same tax as any private operator on the same route.

Transport Commission Road Transport Services

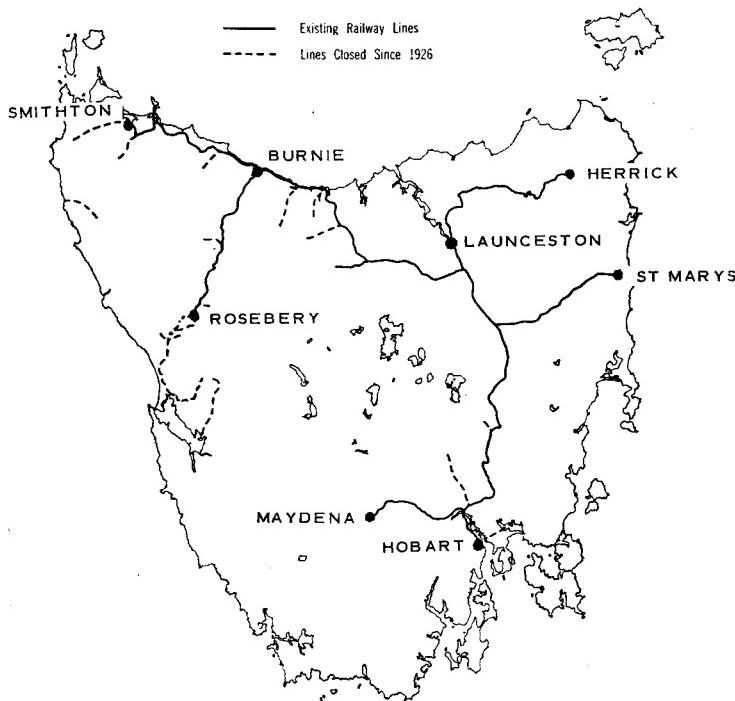
The Commission operated road passenger and road freight services, on which it was obliged to make a profit. Should the Auditor General indicate that these services had been carried on at a loss in the previous financial year, the Act provided that parliamentary approval must be obtained for the Commission to continue the services. The Commission is also obliged to obtain parliamentary approval before initiating new services. In June 1968, the Parliament took note of the losses incurred by the Commission's road services in 1965-66 and 1966-67 and, by an amendment of the *Transport Act*, required the Commission to cease operating the services by November of that year. It is expected that owners of bus services in the private sector will take over the Green Coach Line's routes.

In 1966-67, the Commission's passenger bus services operated over 564 route miles, not only linking the principal towns but also providing inter-urban and special services for workers. The Commission's coaches ran nearly one million vehicle-miles in 1966-67.

RAILWAYS**Introduction**

Tasmania has a three foot six inch gauge Government railway system based on a route mileage of a little under 500 miles. The capital liability of the system at 30 June 1967 was \$20,582,000 but this understates the position since the debt, in 1936-37, was written down by \$9,476,000; the annual debt charges associated with this latter amount were made a charge on Consolidated Revenue. The last year in which earnings exceeded working expenses was 1933-34 and this did not indicate profitable running since interest charges exceeded the small operational surplus. The peak year of operational loss was 1956-57 when working expenses, *excluding* interest and depreciation, exceeded earnings by \$1,365,000. In 1966-67, the operational loss had been reduced to \$1,092,000 but interest and depreciation provisions together imposed an additional burden of \$1,625,000.

The Tasmanian experience of a government railway system heavily dependent on State grants for its continued existence is by no means unique in Australia today. In 1966-67, all State systems received government grants to offset their operating losses or to enable them to meet depreciation, interest and sinking fund obligations; in terms of accepted accounting, the State systems have generally not been a source of profit for many years.



Railway Systems in 1926 and 1967

The railway system in Tasmania is frequently criticised for its failure to 'pay its way'. It can be established, however, that railway development, before the days of mechanised road transport, was an essential pioneering activity; without such development, the State would not have had a railway debt but neither would it have had many of its present farms and factories or even its present level of population.

Historical

The first railway in Tasmania was opened for traffic in 1871 (construction having begun three years earlier on a 45-mile line from Deloraine to Launceston). It is significant that only one-ninth of the original capital was subscribed by the shareholders of the Launceston and Western Railway Company, the remainder, \$800,000, having been raised by the Government. The line was laid in broad gauge (five foot three inch) without regard for the fact that narrower gauge might be needed in the more mountainous parts of the island. Within a year of opening, the company was in financial difficulties and the line was taken over by the Government. At the date of starting construction, the island's population had not passed 100,000.

The second line was a more ambitious undertaking—123 miles of three foot six inch track from Hobart to Western Junction, linking there with the five foot three inch line—and involved considerable problems of contour survey because of the high plateau lying across the route. The Tasmanian Main Line Railway Company opened the line for traffic in 1876. The problem of differing gauges on the two systems was overcome by laying a third rail on the ten miles of the five foot three inch track from Western Junction to Launceston, the Main Line Company having running rights over this stretch. In 1890, the Government purchased the line for \$2,213,000.

The next line to open for traffic (1884) was owned by the Emu Bay and Mount Bischoff Railway Company which converted an existing horse-tramway to three foot six inch gauge; the 48 mile line connected Waratah to the port of Burnie, the primary objective being to ship out freight from the rich Mount Bischoff tin mines.

By 1890, the essential framework of the present railway system on three foot six inch gauge had been laid, and future growth involved track extensions mainly in directions already determined in the first twenty years of rapid construction. The following table shows the pattern of development in 1890 and compares it with that of the present system. Under 'route' is shown firstly the terminals of individual tracks in 1890 and secondly, the present extent of the same tracks. Only construction dates before 1890 have been quoted since later extension of track was carried out in several stages.

**Government and Private Railways
Route Mileage of Lines Open—1890 and 1967**

| Route | Area Served | Year Open For Traffic | Mileage of Lines Open | |
|------------------------------|------------------|-----------------------|-----------------------|-----------------|
| | | | 1 Jan. 1890 | 30 June 1967 |
| Launceston to Devonport .. | North West | 1885 | (a) 82 | |
| Launceston to Smithton .. | " " | .. | .. | (a) 179 |
| Hobart to Western Junction.. | North-South link | 1876 | (b) 123 | (a) 123 |
| Burnie to Waratah | West Coast | 1884 | (b) 48 | |
| Burnie to Rosebery | " " | .. | .. | (b) 71 |
| Conara to St Marys | Fingal Valley | 1886 | (a) 46 | (a) 46 |
| Bridgewater to Glenora .. | Derwent Valley | 1888 | (a) 24 | |
| Bridgewater to Maydena .. | " " | .. | .. | (a) 44 |
| Launceston to Scottsdale .. | North East | 1889 | (a) 47 | |
| Launceston to Herrick .. | " " | .. | .. | (a) 85 |
| Other Branches | .. | .. | (a) 4 | (a) 23 |
| Total Route Miles Open | .. | .. | 374 | 571 |
| Government | .. | .. | 203 | 500 |
| Private | .. | .. | 171 | 71 |

(a) Government.

(b) Private.

The previous table does not show two defunct lines which used to operate on the west coast; these were the government service, Zeehan to Strahan, opened in 1892 and the private service, Queenstown to Strahan, opened in 1899. The Emu Bay railway was extended to Zeehan by 1900 when it became possible to make a Burnie-Queenstown trip by using all three services and moving Burnie-Zeehan-Strahan-Queenstown.

Growth and Decline

The main task of developing and maintaining railways fell to the Tasmanian Government after it purchased the Hobart-Western Junction line in October 1890. The following table shows the mileage of Government-owned railways from 1895 to the present:

Government Railways—Route Mileage of Lines Open

| Year (a) | Route Miles Open | Year (a) | Route Miles Open | Year (a) | Route Miles Open |
|-------------|---------------------|-------------|---------------------|-------------|---------------------|
| 1895 .. | 420 | 1925 .. | 673 | 1950 .. | 613 |
| 1905 .. | 463 | 1930 .. | 679 | 1955 .. | 605 |
| 1910 .. | 470 | 1935 .. | 645 | 1960 .. | 538 |
| 1915 .. | 533 | 1940 .. | 644 | 1965 .. | 500 |
| 1920 .. | 629 | 1945 .. | 642 | 1967 .. | 500 |

(a) 31 December 1895; 30 June for subsequent years.

The peak of development was reached in 1930 when 679 miles were open for traffic; since then, many branch lines have been closed down, the competition of road transport making their operation uneconomic. Route mileage has actually declined to what it was fifty years ago at the outbreak of World War I. Examples of lines now closed down are: Brighton to Apsley, 27 miles; Bellerive to Sorell, 15 miles; Zeehan to Strahan, 29 miles.

Recent Developments

The long-term problem of the State railways has been to reduce the annual operational loss and, in this connection, three major trends have become apparent in recent years:

Introduction of Diesel Locomotives

The elimination of steam locomotives from the system has been almost completed; in 1966-67, for example, steam locomotive engine miles were only 0.13 per cent of total engine miles. Three types of diesel are in operation: mechanical, hydraulic and electric but the bulk of running falls on the diesel electric locomotives. At 30 June 1967, the system had in service the following locomotives: steam 6, diesel mechanical 17, diesel hydraulic 2, diesel electric 37, total 62. In addition, services were maintained using 14 self-contained railcars.

Reduction in Passenger Services

The peak of the system's effectiveness in carrying passengers was reached in 1945-46 when 3.4 million passenger journeys were made. Of recent years, a deliberate policy of eliminating uneconomic services has been pursued and passenger journeys in 1966-67 had fallen to 1.2 million.

Rail Ferry Service

This service is somewhat ambiguously titled since, in other parts of the world, there are railway ferries actually moving rolling stock across water barriers. In the Tasmanian situation, there are roll-on roll-off ferries and container vessels, but there is no means of transferring rolling stock to the continental railways; in any case, the different gauges (three foot six inch as against four foot 8½ inch) present a major difficulty. The introduction of roll-on roll-off ferries and container vessels to the Bass Strait trade, commencing in 1959, was nevertheless accepted by the State railways as an opportunity to extend their existing freight services; the new facility was named 'rail ferry service'.

In essence, the rail ferry service aims at giving door to door transport between Tasmania and the continental States. At the Tasmanian end, transport to and from the sea terminals is handled by the railways and by local carriers commissioned by the railways. At the Victorian sea terminals, carriage is arranged through a road transport agency which acts in co-operation with the Tasmanian railways.

The service began with the evolution of the 'railroader' container, a cargo-carrying unit which is adaptable to the carriage of almost any type of freight. The sides and ends of the 'railroader' are removable for the carriage of long articles (e.g. packed timber), or for the nesting of the pallet-like trays, to enable their movement in parcels of up to six within the space of a single unit. Because these containers are of open design, the charges for cargo are based on actual cargo measurement only and the consignor is therefore not responsible for the cost of lost space, as would be the case with an enclosed type of container. In addition to the general purpose 'railroader', specialised types of container have been evolved, e.g. for heated liquid chocolate, and specially built fibreglass refrigerated containers for substantial quantities of frozen vegetables, etc. Rail ferry service traffic from Tasmania consists chiefly of potatoes, timber, confectionery, tin, electrodes, canned and frozen vegetables, and liquid chocolate, whilst from Melbourne the traffic consists mainly of general cargo, including food stuffs, plastics, footwear, steel, etc. The tonnage carried in containers in this service is now about 130,000 annually and is still expanding.

Considerable ingenuity has gone into the design of the rail ferry service containers which need fittings to allow handling by fork-lift truck, railway gantry and ship's crane, as well as anchorages for securing to rolling stock on both Tasmanian and continental railways. The containers on a typical rail ferry service journey may cross Bass Strait in any of three ways: (1) on a road trailer; (2) on the upper deck of a combined trailer-container ship; (3) in the holds of converted container ships. The ports through which the service operates are Burnie, Bell Bay, Devonport and Hobart.

The rail ferry service is now the largest single operator between Melbourne and northern Tasmanian ports and provides an interesting example of co-operation between State and private enterprise.

Freight Developments

Modernisation of the railways has affected the carriage of freight generally; in the last 25 years, the following changes have been achieved: (i) density of traffic per mile of line worked (measured as net ton-miles) increased nearly fourfold; (ii) train loads increased by 300 per cent; (iii) average length of haul doubled.

Recent developments in bulk transport facilities have strengthened the capacity of the railways to meet the demands of heavy haulage traffic. One freight being carried is bulk cement in specially built aluminium wagons with a carrying capacity of 45 tons; another is coal in 42 ton capacity bottom dump wagons.

In 1965, the mainline tunnel at Rhyndaston was enlarged to give greater clearance for 'out-of-gauge' loads. It is now proposed to lower the railway track on the Bridgewater bridge by 17.5 inches; when this is done, clearance 16 feet high by 14 feet wide will be available from Burnie to Hobart, and from Maydena to Hobart.

Operating Statistics

The next table shows the principal operating statistics for the Tasmanian system:

**Tasmanian Government Railways
Operating Statistics**

| Year | Route-Mileage Open (a) (Miles) | Revenue Train-Mileage ('000 Miles) | Passenger- Journeys ('000) | Goods and Livestock Carried ('000 Tons) |
|-----------|--------------------------------------|--|----------------------------------|---|
| 1961-62.. | 516 | 1,415 | 1,816 | 1,096 |
| 1962-63.. | 516 | 1,322 | 1,558 | 1,165 |
| 1963-64.. | 500 | 1,322 | 1,426 | 1,155 |
| 1964-65.. | 500 | 1,272 | 1,340 | 1,091 |
| 1965-66.. | 500 | 1,283 | 1,304 | 1,072 |
| 1966-67.. | 500 | 1,274 | 1,197 | 1,079 |

(a) At end of period.

Financial Operations

The following table gives details of gross earnings and working expenses:

**Tasmanian Government Railways
Financial Operations**

| Year | Gross Earnings | | Working Expenses (a) | | Net Earnings (b) | |
|---------|----------------|------------------------------|----------------------|------------------------------|------------------|------------------------------|
| | Total | Per Revenue Train Mile | Total | Per Revenue Train Mile | Total | Per Revenue Train Mile |
| | \$'000 | \$ | \$'000 | \$ | \$'000 | \$ |
| 1961-62 | 5,406 | 3.82 | 6,878 | 4.86 | -1,472 | -1.04 |
| 1962-63 | 5,598 | 4.23 | 6,670 | 5.04 | -1,072 | -0.81 |
| 1963-64 | 5,668 | 4.29 | 6,940 | 5.24 | -1,272 | -0.95 |
| 1964-65 | 5,581 | 4.39 | 7,233 | 5.68 | -1,652 | -1.30 |
| 1965-66 | 5,985 | 4.66 | 7,563 | 5.89 | -1,578 | -1.23 |
| 1966-67 | 6,588 | 5.17 | 8,325 | 6.53 | -1,737 | -1.36 |

(a) Includes provision for depreciation but excludes interest.

(b) Excess of gross earnings over working expenses.

Employment and Wages

In the table that follows, details are given of the number of employees, and of wages and salaries paid:

**Tasmanian Government Railways
Number of Employees and Wages and Salaries Paid**

| Year | Average Number of Employees (a) | | Salaries and Wages Paid (\$'000) | Year | Average Number of Employees (a) | | Salaries and Wages Paid (\$'000) |
|---------|------------------------------------|----------|---|---------|------------------------------------|----------|---|
| | Salaried | On Wages | | | Salaried | On Wages | |
| 1961-62 | 354 | 1,994 | 4,990 | 1964-65 | 377 | 1,837 | 5,355 |
| 1962-63 | 357 | 1,891 | 4,868 | 1965-66 | 379 | 1,781 | 5,651 |
| 1963-64 | 366 | 1,895 | 5,220 | 1966-67 | 386 | 1,854 | 6,107 |

(a) Excludes construction staff.

Comparison with Other Australian Systems

The Tasmanian system of government railways is the smallest in Australia and the following table, showing principal operational details, allows a comparison to be made:

Australia—Government Railway Systems, 1966-67
Operating Statistics

| System | Average Route Mileage (Miles) | Revenue Train-Mileage ('000 Miles) | Passenger-Journeys ('000) | Goods and Livestock Carried ('000 Tons) |
|----------------------|-------------------------------|------------------------------------|---------------------------|---|
| N.S.W. | 6,055 | 37,638 | 255,284 | 29,275 |
| Victoria | 4,231 | 20,035 | 146,268 | 12,075 |
| Queensland (a) | 5,730 | 16,876 | 26,372 | 10,185 |
| S.A. | 2,480 | 6,584 | 15,432 | 4,876 |
| W.A. | 3,815 | 8,316 | 9,811 | 7,873 |
| Tasmania | 500 | 1,274 | 1,197 | 1,079 |
| Commonwealth | 2,248 | 2,958 | 371 | 3,121 |
| Total Australia .. | 25,059 | 93,682 | 454,735 | 68,484 |

(a) Includes Queensland portion of Uniform Gauge Railway.

Financial Comparison

In comparing the financial results of the Tasmanian system with those of other authorities, certain difficulties arise from the treatment of depreciation. In the table that follows, working expenses for the systems in Tasmania, S.A. and W.A. include provision of reserves for depreciation. A further complication arises from the fact that interest is not charged against the railways accounts of the Commonwealth system, and, in the Victorian system, only in respect of loan expenditure incurred since 1 July 1960.

To the extent that there is differing treatment of interest and of depreciation provisions in the various systems, the 'net profit or loss' shown in the next table is not a good basis for making comparisons; however, if due allowance is made for interest charges in the case of the Victorian and the Commonwealth systems, it will be seen that loss, rather than profit, is characteristic of most Australian systems.

Australia—Government Railways, 1966-67
Financial Operations
(\$ million) (a)

| System | Gross Earnings (a) | Working Expenses (b) | Net Earnings | Interest (Including Exchange) on Loan Expenditure | Net Profit or Loss |
|--------------------|--------------------|----------------------|--------------|---|--------------------|
| N.S.W. | 213.3 | 185.0 | 28.3 | 26.1 | 2.2 |
| Victoria | 104.4 | 103.4 | 1.0 | (c) 4.7 | -3.7 |
| Queensland | 87.9 | 84.3 | 3.6 | (d) 16.9 | -13.3 |
| S.A. | 30.2 | 34.0 | -3.7 | 5.5 | -9.2 |
| W.A. | 48.0 | 44.5 | 3.5 | 8.0 | -4.5 |
| Tasmania | 6.6 | 8.3 | -1.7 | 1.0 | -2.7 |
| Commonwealth | 19.4 | 19.4 | .. | (e) | .. |
| Total Australia .. | 509.9 | 478.9 | 31.0 | 62.2 | -31.2 |

(a) Excludes Government grants, e.g. N.S.W., \$3,200,000; S.A., \$8,000,000, etc.

(b) Includes provision for depreciation in S.A., W.A., and Tasmania.

(c) Payments required only in respect of loan expenditure incurred since 1 July 1960.

(d) Includes interest and redemption, Mt Isa Project Fund and interest on the Queensland 4 foot 8½ inch gauge system.

(e) Interest not charged against railway accounts.

GOVERNMENT TRAMWAY, TROLLEY-BUS AND OMNIBUS SERVICES

Scope

The details that follow refer to services provided by the Metropolitan Transport Trust and by the Tasmanian Transport Commission. At 30 June 1967, the Metropolitan Transport Trust was operating omnibus services in Hobart, Launceston and Burnie; in Hobart and Launceston, it was also operating on some routes with trolley-buses. The Transport Commission was operating omnibuses on long-distance intra-state routes; however, in June 1968, the Parliament amended the *Transport Act* and obliged the Transport Commission to wind up its road services by November 1968.

Metropolitan Transport Trust

Until 1955, tramway, trolley-bus and omnibus services were operated in Hobart and Launceston by the municipal authority in each city. The Hobart system had operated without subsidy but the Launceston system received, as one item of revenue, the annual proceeds from a special tramways rate.

The *Metropolitan Transport Act* 1954 empowered the State to enter into agreements for the acquisition of the two systems and to vest them in the newly constituted semi-government authority named in the Act. After negotiation with the two municipal authorities, the Trust arranged to take over the Hobart system from 28 February 1955, and the Launceston system from 1 July 1955. It was part of the agreement that the Trust should re-imburse to the municipal authorities the annual charges relating to the loan debt of each system. Future capital was to come from the State loan fund.

During 1959-60, the Trust commenced the operation of omnibus services in Burnie. In October 1960, trams ceased running in Hobart (the Launceston system had dispensed with trams before it was taken over by the Trust) and both systems relied entirely on omnibuses and trolley-buses. During 1968, trolley-buses were replaced by omnibuses in Hobart and Launceston.

Financial Operations of Trust

The following table shows the income and expenditure of the Metropolitan Transport Trust:

**Metropolitan Transport Trust
Income and Expenditure
(\$'000)**

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------------|---------|---------|---------|---------|---------|
| Income— | | | | | |
| Traffic Operations | 1,876 | 1,855 | 1,798 | 1,962 | 2,093 |
| Other Earnings | 29 | 27 | 31 | 32 | 31 |
| Subsidy—State Government | 600 | 680 | 760 | 760 | 975 |
| Total | 2,505 | 2,562 | 2,589 | 2,754 | 3,099 |
| Expenditure— | | | | | |
| Traffic Operations | 1,157 | 1,221 | 1,269 | 1,357 | 1,505 |
| Maintenance | 418 | 433 | 450 | 468 | 499 |
| Power and Fuel | 208 | 211 | 186 | 197 | 210 |
| Workshop and Stores .. | 53 | 34 | 34 | 34 | 62 |
| Administration and General | 322 | 306 | 295 | 308 | 339 |
| Debt Charges | 186 | 172 | 167 | 169 | 170 |
| Depreciation Charges .. | 193 | 207 | 205 | 215 | 223 |
| Total | 2,537 | 2,584 | 2,606 | 2,749 | 3,008 |

Loan Debt of Trust

The loan debt of the Trust is partly in respect of debentures and inscribed stock originally issued by Launceston Corporation. Debentures originally issued by the Hobart Corporation have been fully repaid, the last instalment being made in 1965-66. At 30 June 1967, loans of this nature stood at \$133,000; net advances from the State loan fund stood at \$2,726,000.

Transport Commission—Omnibus Services

The financial operations of the Transport Commission are described in the section of this chapter headed 'Transport Commission'; omnibus services are included in the financial details of this authority under 'road transport services'. Details of these omnibus services will be last recorded for 1968-69, the year in which they are obliged to cease operations.

Operating Statistics

The tables that follow combine the operations of the Metropolitan Transport Trust and of the omnibus services provided by the Transport Commission.

**Government Trolley-bus and Omnibus Services
Operating Statistics (a)**

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| Route-miles (b)— | | | | | | |
| Trolley-bus .. | 28 | 28 | 28 | 28 | 28 | 28 |
| Omnibus .. | 813 | 808 | 910 | 911 | 923 | 748 |
| Vehicle-miles—('000) | | | | | | |
| Trolley-bus .. | 1,397 | 1,353 | 1,340 | 1,226 | 1,119 | 1,052 |
| Omnibus .. | 4,946 | 4,863 | 5,094 | 5,180 | 5,175 | 5,272 |
| Passenger-journeys(c) ('000) | 25,576 | 25,145 | 24,756 | 23,955 | 22,750 | 22,582 |

(a) Operation of fleets owned by Metropolitan Transport Trust and Transport Commission.

(b) At end of period.

(c) Passenger-journeys on trolley-buses and omnibuses.

Financial Details

The following table shows the gross revenue (excluding Government grants) and the working expenses associated with the transport systems of the two authorities:

**Government Trolley-bus and Omnibus Services
Gross Revenue and Working Expenses (a)
(\$'000)**

| Particulars | 1961-62 | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|----------------------|---------|---------|---------|---------|---------|---------|
| Gross Revenue (b) | 2,356 | 2,302 | 2,278 | 2,246 | 2,387 | 2,520 |
| Working Expenses (c) | 2,858 | 2,760 | 2,824 | 2,862 | 3,008 | 3,266 |
| Net Revenue .. | -502 | -458 | -546 | -616 | -621 | -746 |

(a) Operation of fleets owned by Metropolitan Transport Trust and Transport Commission.

(b) Excludes government grants.

(c) Includes depreciation.

Comparison with Other States

The services under the two authorities, when their financial details are combined, obviously run at a loss; the losses are met, in the main, from State Government grants. The necessity for subsidising similar government transport systems in other parts of Australia is suggested by the following table:

**Australia—Government and Municipal Tramway, Trolley-bus and Omnibus Services,
1966-67**

Net Revenue

| State | Total | Per Passenger-Journey | Per Route-Mile | Per Vehicle-Mile |
|---------------|---------|-----------------------|----------------|------------------|
| | \$'000 | cents | \$ | cents |
| N.S.W. .. | — 3,686 | — 1.50 | — 6,103 | — 8.14 |
| Victoria .. | — 480 | — 0.30 | — 1,702 | — 1.97 |
| Queensland .. | 338 | 0.42 | 822 | 2.50 |
| S.A. .. | 323 | 0.65 | 2,168 | 2.87 |
| W.A. .. | — 199 | — 0.39 | — 46 | — 0.95 |
| Tasmania .. | — 746 | — 3.30 | — 961 | — 11.80 |
| Total (a) .. | — 4,716 | — 0.08 | — 712 | — 3.79 |

(a) Includes Northern Territory and the Australian Capital Territory not specified above.

The previous table dealing with net revenue in all States is not a complete account of the losses since interest has not been taken into the calculation. In 1966-67, interest payments were as follows (in \$'000): N.S.W., 1,575; Victoria, 1,222; Queensland, 518; S.A., 474; W.A., 459; Tasmania, 157.

ROADS AND BRIDGES IN TASMANIA

Scope

The details in the following section refer to: (i) 'classified' roads; (ii) roads of local government authorities; (iii) roads of other government authorities. A further qualification is that the roads are those normally open to traffic.

Definitions and Mileages

(i) *Classified Roads*: These are roads for which the State Government accepts direct responsibility, the construction and maintenance authority being the Public Works Department. The mileage of classified (or State) roads at 30 June 1967 was as follows: State highways, 1,233 miles; main roads, 660 miles; secondary roads, 197 miles; tourist roads, 47 miles; and other roads, 144 miles; total State roads, 2,281 miles.

(ii) *Roads of Local Government Authorities*: The roads for which the local government authorities accepted responsibility at 30 June 1967, included: town and city streets, 1,528 miles; other municipal roads, 7,394 miles; total, 8,922 miles.

(iii) *Roads of Other Government Authorities*: The roads for which other government authorities accepted responsibility at 30 June 1967, included: roads of the Hydro-Electric Commission, 184 miles, Forestry Commission, 1,801 miles; total, 1,985 miles. The Hydro-Electric Commission mileage (184) includes the new road built from Maydena to the Gordon-Serpentine junction; this 53-mile route into the south-west was opened for public use in June 1967 but permits have to be obtained from the controlling authority.

Surface of Roads

The following table shows mileages of all roads normally open to traffic, classified according to road surface, and according to the level of government which accepts responsibility for construction and maintenance. The most striking feature is the increase, over the last five years, in the percentage of State (or classified) roads with sealed surfaces; as the table indicates, the sealed mileage has increased from 53.5 per cent to 69.1 per cent.

Length of Roads According to Nature of Surface at 30 June

| Type of Surface | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
|-----------------|------|------|------|------|------|------|
|-----------------|------|------|------|------|------|------|

CLASSIFIED ROADS

| | | | | | | |
|----------------------|-------|-------|-------|-------|-------|-------|
| Sealed (a) ..(miles) | 1,177 | 1,266 | 1,336 | 1,435 | 1,492 | 1,576 |
| Unsealed (b) (miles) | 1,024 | 947 | 874 | 809 | 754 | 705 |
| Total ..(miles) | 2,201 | 2,213 | 2,210 | 2,244 | 2,246 | 2,281 |
| Sealed Ratio (c) (%) | 53.5 | 57.2 | 60.5 | 63.9 | 66.4 | 69.1 |

ROADS OF LOCAL GOVERNMENT AUTHORITIES

| | | | | | | |
|----------------------------------|-------|-------|-------|-------|-------|-------|
| Sealed (a) ..(miles) | 848 | 967 | 1,072 | 1,184 | 1,354 | 1,514 |
| Unsealed (b) (miles) | 6,126 | 6,086 | 6,168 | 6,124 | 6,109 | 6,046 |
| Formed or Cleared Only ..(miles) | 1,495 | 1,488 | 1,342 | 1,314 | 1,264 | 1,362 |
| Total ..(miles) | 8,469 | 8,541 | 8,582 | 8,622 | 8,727 | 8,922 |
| Sealed Ratio (c) (%) | 12.2 | 13.7 | 14.8 | 16.2 | 18.1 | 20.0 |

ROADS OF OTHER GOVERNMENT AUTHORITIES

| | | | | | | |
|----------------------------------|-------|-------|-------|-------|-------|-------|
| Sealed (a) ..(miles) | 27 | 27 | 27 | 47 | 47 | 44 |
| Unsealed (b) (miles) | 1,196 | 1,259 | 1,442 | 1,625 | 1,807 | 1,935 |
| Formed or Cleared Only ..(miles) | .. | .. | .. | .. | .. | 6 |
| Total ..(miles) | 1,223 | 1,286 | 1,469 | 1,672 | 1,854 | 1,985 |
| Sealed Ratio (c) (%) | 2.2 | 2.1 | 1.8 | 2.8 | 2.6 | 2.2 |

ALL ROADS

| | | | | | | |
|----------------------------------|--------|--------|--------|--------|--------|--------|
| Sealed (a) ..(miles) | 2,052 | 2,260 | 2,435 | 2,666 | 2,893 | 3,134 |
| Unsealed (b) (miles) | 8,346 | 8,292 | 8,484 | 8,558 | 8,670 | 8,686 |
| Formed or Cleared Only ..(miles) | 1,495 | 1,488 | 1,342 | 1,314 | 1,264 | 1,368 |
| Total ..(miles) | 11,893 | 12,040 | 12,261 | 12,538 | 12,827 | 13,188 |
| Sealed Ratio (c) (%) | 19.7 | 21.4 | 22.4 | 23.8 | 25.0 | 26.5 |

(a) Bitumen or concrete.

(b) Gravel or stone.

(c) Sealed as a proportion of sealed and unsealed (excluding formed and cleared only).

Classified (or State) Roads

The next table analyses the mileage of classified roads according to their description, and also according to their surface. The principal State highways include the following: (i) *Arthur* (46 miles), from Sorell to Port Arthur; (ii) *Bass* (177 miles), from Launceston to Marrawah in the north-west; (iii) *Channel* (59 miles), from Hobart to Huonville, via D'Entrecasteaux area; (iv) *East Tamar* (27 miles), from Launceston to Bell Bay; (v) *Huon* (59 miles), from Hobart to Hythe via Dover; (vi) *Lake* (93 miles), from Deloraine via Great Lake to Melton Mowbray; (vii) *Lyell* (171 miles), from Granton, near Hobart, to Strahan; (viii) *Marlborough* (20 miles), from Bronte to Lake Highway near Miena; (ix) *Midland* (114 miles), from Glenorchy to Launceston; (x) *Murchison* (48 miles), from Zeehan highway to Waratah area; (xi) *Tasman* (263 miles), from Hobart to Launceston, via East Coast and St Helens; (xii) *Waratah* (44 miles), from Somerset to Waratah area; (xiii) *West Tamar* (28 miles), from Launceston to Inspection Head; (xiv) *Poatina* (28 miles), from Poatina Village up to and along Great Lake.

Classified (or State) Roads
Description and Length at 30 June 1967
(Miles)

| Description | Nature of Surface | | Total |
|------------------------------|-------------------|--------------|-------|
| | Sealed (a) | Unsealed (b) | |
| Highways | 1,014 | 219 | 1,233 |
| Main Roads | 442 | 218 | 660 |
| Secondary Roads | 82 | 115 | 197 |
| Tourist Roads | 4 | 43 | 47 |
| Subsidised Roads | 25 | 108 | 133 |
| Developmental Roads | 9 | 2 | 11 |
| Total | 1,576 | 705 | 2,281 |

(a) Bitumen or concrete.

(b) Gravel or stone.

Expenditure on Roads

As indicated in the preface to this section, the responsibility for road construction and maintenance is placed upon the State Government, and upon local government and semi-government authorities. The financial details which follow relate only to funds available to the State Government. The following table shows, for a five-year period, details of the main source of funds available to the State Government for road construction and maintenance:

Principal Funds Available to State Government for Roads
(\$'000)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---|---------|---------|---------|---------|---------|
| Motor Vehicle Registration, Taxation, Licences, Fines, etc. | 2,833 | 3,019 | 3,153 | 3,425 | 3,961 |
| Commonwealth Aid Roads Grants | 5,400 | 5,800 | 6,500 | 7,000 | 7,500 |
| State Loan Fund | 3,854 | 3,165 | 3,468 | 4,446 | 1,693 |

Receipts and Expenditure, 1966-67

The next table gives a detailed analysis of funds available to the State Government and their expenditure:

State Road Funds (Combined Funds), 1966-67

| Particulars | \$'000 |
|--|--------|
| Receipts— | |
| State— | |
| Motor Vehicle Registration, Taxation, Licences, Renewal Fees, Fines, etc. | 3,961 |
| Consolidated Revenue, n.e.i. | 1,693 |
| Loan Fund | .. |
| Commonwealth— | |
| Commonwealth Aid Roads Act Grants | 7,500 |
| Local Government— | |
| Repayment of Advances | 38 |
| Miscellaneous— | |
| Sale of Plant and Materials | 79 |
| Other | 184 |
| Total | 13,455 |
| Expenditure— | |
| Construction and Reconstruction, Roads and Bridges | 9,445 |
| Maintenance, Roads and Bridges | 3,167 |
| Purchase of Road Construction Plant and Similar Assets | 616 |
| Hire and Maintenance of Road Plant (Net) (a) | —556 |
| Purchase of Materials | 30 |
| Other Works connected with Commonwealth Aid Roads Act | 45 |
| Grants in Aid to Local Government Authorities | 37 |
| Other Expenditure | 728 |
| Total | 13,513 |

(a) Hire of plant and workshop charges (\$3,824,000) less maintenance and operation of road construction plant (\$3,268,000).

Receipts and Expenditure, Local Government Authorities

Some of the expenditure appearing in the previous table consists of grants from the State Government to local government authorities, although such grants are not specifically dissected. In Chapter 4, 'Local Government', details will be found of: (i) grants from the State to local government authorities for road purposes; (ii) road rates collected by local government authorities; (iii) expenditure on road construction and maintenance by local government authorities from revenue, and from loan funds.

Bridges in Tasmania

The Tasman Bridge is fully described in the 1967 *Year Book* and the Batman Bridge in the 1968 *Year Book*; the following summarises their principal characteristics.

The Tasman Bridge

Site: The bridge is located on the Derwent estuary a mile upstream from the main port and it connects Hobart to its eastern shore suburbs across nearly 1,200 yards of deep water.

History: An earlier bridge (*the Hobart*) had been built at virtually the same site in 1943 and had contributed to its own obsolescence; it was the direct cause of the rapid development of the eastern shore suburbs and this in turn made provision of a better bridge an urgent necessity. The original structure was a floating arch with a navigation lift span near the western shore; it had only three traffic lanes and the operation of the lift span often caused road traffic to back up almost back to the city centre.

The replacement, the pre-stressed concrete Tasman Bridge, was commenced in 1960 and opened for traffic on 17 August 1964; the next day, the floating arch of the Hobart Bridge was broken into two 12,000 ton sections for towing away to an anchorage up-stream.

Description: The high-level Tasman Bridge is built on pile-based piers and reaches its maximum height in a fixed navigation span giving a minimum clearance of 150 feet to ships passing underneath. The dimensions are:

The Tasman Bridge: Dimensions

| Bridge Sections | Number of Spans | Description | Length (feet) |
|---|-----------------|---|---------------|
| Western spans | (a) 13 | From <i>west</i> abutment to pier 13 .. | 1,820 |
| Anchor span | 1 | From pier 13 to pier 14 .. | 197 |
| Navigation span | 1 | " 14 " 15 " | 310 |
| Anchor span | 1 | " 15 " 16 " | 197 |
| Eastern spans | (a) 6 | From pier 16 to <i>east</i> abutment .. | 840 |
| Total length between abutments | | | 3,364 |

(a) Each span is 140 feet.

The high-level bridge has four 11-foot traffic lanes. To obtain maximum vehicle capacity, each bridge end terminates in three-level interchanges providing complete separation of the different streams of traffic; on the western end, the exchange is an integral part of the main bridge; on the eastern end, a separate structure. The eastern approach to the shore abutment is by a short viaduct of twelve 70 foot spans; the western approach is by grade separation viaducts approximately 400 feet long. When the abutment approaches are taken into account, the whole structure is over 4,600 feet long.

The basic construction problem was to establish piers just above water level, to erect columns on the piers and then to span the piers to form a carriage-way. From piers 4 to 8, the dolerite is as much as 300 feet below water surface with an overlay of stiff clays, coarse gravel, sandy loam and conglomerate; at pier 18, the water reaches its greatest depth, 123 feet. Under these conditions, the Tasman Bridge, rising more than 150 feet above the sea, resembles an iceberg with much more hidden below the water than appears above it.

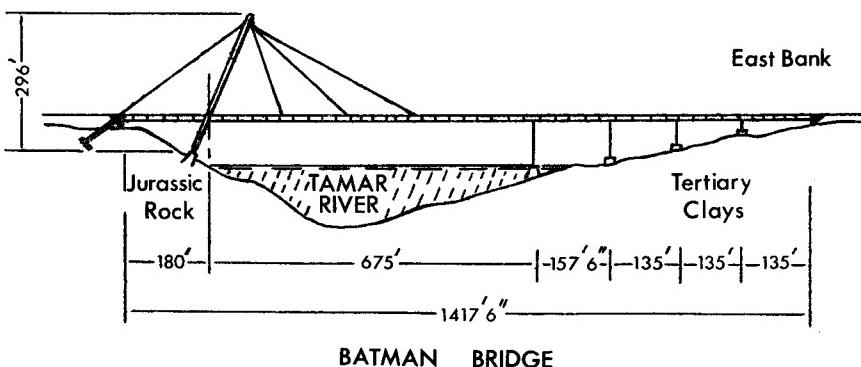
In general, each ordinary pier is based on a nest of eight piles, most of them raked at nearly 5° from the vertical to give greater resistance to horizontal forces; however, the anchor span piers are based on nests of 12 and the navigation span piers on nests of 24. Where possible, piers were driven down to the underlying basalt or dolerite; at piers 4 and 5, the piles were founded in very stiff clays 200 feet below sea level and at piers 6, 7, and 8 they were founded in either a stiff sandy loam or conglomerate, at depths from approximately 180 feet to a maximum depth of 263 feet. On pier 7, a pile of 267 feet is the longest in the whole structure.

Cost: In the report of the Auditor General for 1967-68, the aggregate construction cost was stated as \$14.4m.

The Batman Bridge

Site: The bridge is located 25 miles downstream from Launceston and crosses the Tamar at Whirlpool Reach; the main ports, Bell Bay, Beauty Point and Inspection Head, are five or six miles further downstream from the bridge which therefore needs only give vertical clearance to interstate ships moving south to Launceston (94 feet is provided).

History: The Tamar was bridged in 1863 just below the discharge of the South Esk through Cataract Gorge, only a mile or less from the centre of Launceston. From this point, the Tamar proceeds a further 40 miles to Bass Strait and it has always been a most frustrating obstacle to wheeled traffic. The development of George Town as an industrial area in the 1950s made more apparent the isolation of the coastal north-east from the coastal north-west; even the overseas port was divided with Beauty Point and Inspection Head on the west bank, and Bell Bay on the east. Planning to overcome this obstacle began in the 1960s and on 18 May 1968 the Batman Bridge was officially opened. A glance at a map establishes the fact that the main roads in the Tamar region run north and south, with Launceston as their point of convergence. The Batman will eventually lead to a new orientation, with major roads running east and west to establish more direct links between the north-east and the north-west.



Description: The Batman is a special type of two-lane suspension bridge, with the supporting cables running back through the apex of a single giant A-tower on the west bank. This peculiarity in design is the direct result of the marked difference between the Jurassic bedrock of the west bank and the soft tertiary clays of the east bank; with this geological handicap, it was necessary for virtually the whole weight of the river span (675 feet) to be carried by the west bank foundations. The 315 foot A-tower is inclined at 20° to the vertical so that it leans out over the river; as a result, any lateral thrust exerted by the river span is directed back against the west bank.

The dimensions of the Batman Bridge are shown:

The Batman Bridge: Dimensions

| Bridge Section | Description | Length (feet) |
|---|--|---------------------|
| Side span | From <i>west</i> abutment to bar of A-tower | 180 |
| River span | From bar of A-tower to first east pier | 675 |
| First aqueduct span.. | From first east pier to second | 157 $\frac{1}{2}$ |
| Three aqueduct spans | From second pier over third and fourth to <i>east</i> abutment | (a) 405 |
| Total length between abutments | | 1,417 $\frac{1}{2}$ |

(a) Each span is 135 feet.

The most notable construction feat was the eastward extension, in sections, of 618.75 feet of steel truss over the river; only the west end was supported by the A-tower bar whilst the balance had to be held up by perm-

anent and temporary forestays from the A-tower apex. When the projection extended out 618.75 feet from the bar, it was joined to a 56.25 foot projection from the first east pier; the two projections, united at an expansion joint, make up the river span (675 feet).

Cost: The cost of the Batman Bridge, including the road approach to the abutments, is not expected to exceed \$5.2m.

MOTOR VEHICLE REGISTRATIONS

General

Statistics in this section deal with: (i) motor vehicles 'on register' at specific dates; (ii) new motor vehicles registered within a specified period, e.g. a year.

Definitions

Register: To be allowed on the public roads, motor vehicles, except those owned by the Commonwealth Government, are required to be registered with the State Transport Commission; State Government vehicles, as well as privately-owned vehicles, are registered with this authority. Commonwealth Government-owned vehicles, except those belonging to the defence services, are recorded on a separate Commonwealth register. 'On the register', in this section, refers to both the State and Commonwealth registration records, and to all motor vehicles except those of the defence services. Statistics of new motor vehicle registrations comply with the same definition.

Vehicles Included: The statistics cover cars, station wagons, motor cycles and commercial vehicles. Commercial vehicles as defined include utilities, panel vans, trucks and omnibuses. Tractors, trailers, and mobile plant and equipment are excluded.

Vehicles on Register

The following table has been compiled to show, in summary form, the increase in motor vehicles on the register since 1910. To give a convenient measure of this growth, vehicles on the register have been related to the population (vehicles per 1,000 persons), and increases have also been expressed as annual averages for each decade.

Motor Vehicles on Register from 1910

| At 30 June | Cars and Station Wagons | Commercial Vehicles | Motor Cycles | All Vehicles | | |
|-----------------|-------------------------|---------------------|--------------|--------------|-------------------------|-----------------------------|
| | | | | Total | Per 1,000 of Population | Average Annual Increase (b) |
| 1910 | 210 | (a) | 223 | 433 | 2 | .. |
| 1920 | 2,404 | (a) | 1,699 | 4,103 | 20 | 367 |
| 1930 | 12,533 | 2,198 | 4,814 | 19,545 | 89 | 1,544 |
| 1940 | 17,598 | 5,235 | 3,351 | 26,184 | 109 | 664 |
| 1950 | 25,291 | 12,928 | 4,941 | 43,160 | 156 | 1,698 |
| 1960 | 63,748 | 26,352 | 3,098 | 93,198 | 271 | 5,004 |
| 1967 | 102,115 | 31,379 | 1,632 | 135,126 | 359 | (c) 5,990 |
| 1968 (March) .. | 106,176 | 32,172 | 2,032 | 140,380 | .. | .. |

(a) Included with cars and station wagons.

(b) For decade ending in year shown.

(c) For seven years ended 30 June 1967.

The next table gives details of motor vehicles on the register for recent years; annual increases are shown to allow comparison with the average annual rates for each decade appearing in the previous historical table.

Motor Vehicles on Register

| At 31 December | Cars and Station Wagons | Commercial Vehicles | Motor Cycles | All Vehicles | | |
|----------------|-------------------------|---------------------|--------------|--------------|-------------------------|-----------------|
| | | | | Total | Per 1,000 of Population | Annual Increase |
| 1962 | 75,697 | 27,275 | 2,101 | 105,073 | 293 | 5,009 |
| 1963 | 81,642 | 28,125 | 1,856 | 111,623 | 308 | 6,550 |
| 1964 | 88,084 | 29,005 | 1,586 | 118,675 | 324 | 7,052 |
| 1965 | 94,039 | 29,823 | 1,441 | 125,303 | 339 | 6,628 |
| 1966 | 99,947 | 31,184 | 1,562 | 132,693 | 355 | 7,390 |
| 1967 | 104,652 | 31,908 | 1,833 | 138,393 | 365 | 5,700 |

Motor Vehicles on Register in Australia

Whilst different concepts of what constitutes a 'motor vehicle on register' at a particular point in time may be appropriate for different purposes, to obtain uniform statistics for all States and Territories it is necessary to adopt a common definition of *motor vehicles on register* at a particular date. In the table that follows, the concept of *motor vehicles on register* at a particular date, say 30 June is as follows:

- (i) vehicles with fees paid up for any period including 30 June;
- (ii) vehicles for which fees were retrospectively paid for any period including 30 June.

This concept excludes vehicles for which payments were not subsequently made in respect of a period including 30 June, even though at that date their registrations may not have been formally terminated.

The table that follows shows details of motor vehicles on the register for all States and Territories:

Australia—Motor Vehicles on Register, 30 June 1967

| State or Territory | Cars and Station Wagons | Commercial Vehicles | Motor Cycles | All Vehicles | |
|---------------------|-------------------------|---------------------|--------------|--------------|-------------------------|
| | | | | Total | Per 1,000 of Population |
| | '000 | '000 | '000 | '000 | no. |
| N.S.W. | 1,117 | 296 | 24 | 1,437 | 334 |
| Victoria | 901 | 223 | 12 | 1,137 | 347 |
| Queensland | 420 | 157 | 13 | 590 | 349 |
| S.A. | 315 | 86 | 12 | 413 | 373 |
| W.A. | 241 | 88 | 9 | 337 | 390 |
| Tasmania | 102 | 31 | 2 | 135 | 359 |
| N.T. | 10 | 6 | 1 | 17 | 430 |
| A.C.T. | 34 | 5 | 1 | 40 | 386 |
| Total | 3,140 | 893 | 73 | 4,107 | 350 |

Registration of New Motor Vehicles

In the next table, details are shown of new motor vehicles registered in Tasmania over a five-year period:

Annual Registrations of New Motor Vehicles

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|-------------------------|--------|--------|--------|--------|--------|
| Cars | 7,470 | 7,919 | 8,507 | 8,595 | 9,543 |
| Station Wagons | 2,012 | 2,204 | 1,936 | 1,709 | 1,619 |
| Utilities | 1,103 | 1,191 | 1,170 | 1,308 | 1,243 |
| Panel Vans | 372 | 382 | 424 | 500 | 499 |
| Trucks | 717 | 787 | 864 | 789 | 802 |
| Motor Cycles | 62 | 45 | 122 | 272 | 575 |
| Other (a) | 79 | 66 | 106 | 109 | 88 |
| Total | 11,815 | 12,594 | 13,129 | 13,282 | 14,369 |

(a) Includes omnibuses, ambulances and hearses.

New Registrations According to Make

The table that follows analyses Tasmanian registrations of new cars and new station wagons according to the make, and illustrates the present popularity of Holden, Ford, Chrysler, Morris and Toyota.

Registrations of New Cars and New Station Wagons, 1967**Classified to Predominant Make**

| Make | Cars | | Station Wagons | |
|------------------------|--------|-------------------------------------|----------------|---|
| | Number | Proportion of Total Cars (Per Cent) | Number | Proportion of Total Station Wagons (Per Cent) |
| Alfa Romeo.. | 15 | 0.2 | .. | .. |
| Austin | 389 | 4.1 | .. | .. |
| Chevrolet | 15 | 0.2 | .. | .. |
| Chrysler | 830 | 8.7 | 183 | 11.3 |
| Datsun | 316 | 3.3 | 56 | 3.5 |
| Dodge | 19 | 0.2 | .. | .. |
| Fiat | 42 | 0.4 | 3 | 0.2 |
| Ford | 1,928 | 20.2 | 355 | 21.9 |
| Hillman | 257 | 2.7 | 12 | 0.8 |
| Holden | 2,945 | 30.9 | 873 | 53.9 |
| Isuzu | 195 | 2.0 | .. | .. |
| M.G. | 27 | 0.3 | .. | .. |
| Mazda | 152 | 1.6 | 13 | 0.8 |
| Mercedes Benz | 42 | 0.4 | .. | .. |
| Mitsubishi | 97 | 1.0 | .. | .. |
| Morris | 963 | 10.1 | .. | .. |
| Peugot | 60 | 0.6 | 7 | 0.4 |
| Rambler | 36 | 0.4 | 3 | 0.2 |
| Toyota | 617 | 6.5 | 65 | 4.0 |
| Triumph | 57 | 0.6 | .. | .. |
| Volkswagen | 357 | 3.7 | 44 | 2.7 |
| Other | 184 | 1.9 | 5 | 0.3 |
| Total | 9,543 | 100.0 | 1,619 | 100.0 |

'Scrapping' of Motor Vehicles

Apart from the few 'veteran' cars owned by enthusiasts, most vehicles are eventually scrapped. No information is collected on the number scrapped each year but the following table contains information from which some inferences may be drawn:

New Motor Vehicles Registered and Annual Increase in Motor Vehicles on Register

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|---|--------|--------|--------|--------|--------|
| New Motor Vehicles Registered (a) | 11,815 | 12,594 | 13,129 | 13,282 | 14,369 |
| Annual Increase, Motor Vehicles on Register (b) .. . | 6,550 | 7,052 | 6,628 | 7,390 | 5,700 |

(a) During year ended 31 December.

(b) Annual increase measured at 31 December.

In comparing the two sets of figures in the previous table, it would be wrong to assume that the difference in each year represented purely scrapped vehicles; exceptions would include vehicles transferred interstate and vehicles 'on blocks'—the fact that an owner has let a registration expire does not necessarily mean that he intends to scrap his vehicle. Subject to these and similar difficulties of interpretation, it would appear that over six thousand motor vehicles may have been scrapped annually since 1963.

ROAD TRAFFIC ACCIDENTS IN TASMANIA**Scope of Statistics**

With the rapid development of road transport, there has come an increase in the number of road traffic accidents; some merely involve damage to vehicles, but others result in injury or death. To evolve meaningful statistics describing these events, it has been found necessary to narrow the field of observation to those road traffic accidents which involve casualties, since some accidents resulting only in vehicle damage are not reported to the police (the drivers might merely exchange names and report to their respective insurance companies). Further, there is the difficulty of fixing, in monetary terms, some valid standard for determining what degree of vehicle damage warrants inclusion of an accident in a long-term statistical series—obviously \$20 or \$50 for repairs in 1950 is not comparable with \$20 or \$50 for repairs now.

For these and other reasons, the statistics in this section are restricted to details of those road traffic accidents which were recorded by the police and which involved casualties requiring medical or surgical treatment, or caused death.

Source of Data

Details of each road traffic accident reported to the police, or investigated by the police, are recorded on a standard form and copies are made available to the Transport Commission and to the Bureau of Census and Statistics; at the Bureau, monthly statistics are compiled only from those reports describing accidents involving casualties. The Transport Commission employs the reports it receives in connection with road engineering, the location of traffic signs and signals, the pin-pointing of dangerous locations, traffic engineering, and accident prevention in general.

Responsibility for, and Cause of, Accidents

For the purposes of the statistics in this section, the police officer reporting the accident determines, on the basis of the evidence available, the road user or agency responsible, and also the cause of the accident. The fact that civil

or criminal courts may later make different decisions on these matters is disregarded in these statistics; nor is any attempt made to distinguish between accidents giving rise to subsequent legal action and those not doing so.

Causes of Accidents

Causes of accidents in Australian States are classified, for statistical purposes, in accordance with a standard list of 76 prime causes (although, in this section, only the most frequent causes will be shown). Contributory causes and conflicting or incomplete evidence make precise classification difficult. No provision is made to record and classify such antecedent causes as fatigue, the influence of intoxicating liquor, courtesy, impatience or other driving faults (e.g. 'intoxication' is listed as a possible prime cause but where evidence of intoxication is inconclusive, the reporting police officer usually shows some more immediately apparent cause).

Road Traffic Accident Statistics

The following table summarises the principal statistics of road traffic accidents involving casualties from 1949-50:

Road Traffic Accidents Involving Casualties from 1949-50

| Period | Accidents | | Persons | | | | |
|----------|-----------|---|---------|---|---------|---|-----|
| | Number | Per 10,000 Vehicles Registered (a) | Killed | | Injured | | |
| | | | Number | Per 10,000 Vehicles Registered (a) | Number | Per 10,000 Vehicles Registered (a) | |
| 1949-50 | | 969 | 242 | 64 | 16.0 | 1,154 | 288 |
| 1954-55 | | 864 | 127 | 57 | 8.3 | 1,111 | 163 |
| 1959-60 | | 743 | 82 | 79 | 8.7 | 1,004 | 111 |
| 1963-64 | | 1,118 | 101 | 80 | 7.2 | 1,656 | 149 |
| 1964-65 | | 1,180 | 99 | 97 | 8.2 | 1,692 | 142 |
| 1965-66 | | 1,291 | 103 | 88 | 7.0 | 1,955 | 155 |
| 1966-67 | | 1,356 | 102 | 102 | 7.7 | 2,081 | 157 |
| 1967 (b) | | 1,342 | 100 | 101 | 7.3 | 2,095 | 151 |

(a) Based on average number of motor vehicles on register during period. 'Vehicles on register' is defined in earlier section headed 'Motor Vehicle Registrations'.

(b) Year ended 31 December 1967.

The immediate inference to be drawn from the above table is that the annual totals of accidents involving casualties, and of persons killed and injured, have increased at a much slower rate than have motor vehicles on the register. In 1950, there were 43,160 motor vehicles on the register at 30 June, the corresponding figure for 1967 being 135,126; in the period covered by the table, the registration figure has more than tripled, whereas accidents and casualties have not doubled, and the rates per 10,000 vehicles are much lower.

Location of Accidents

The first table shows the location of accidents in the State:

Road Traffic Accidents and Casualties by Location, 1966-67

| Particulars | City of Hobart | Suburbs of Hobart | Remainder of State | Whole State |
|-----------------------------------|----------------|-------------------|--------------------|-------------|
| Accidents Involving Casualties .. | 287 | 211 | 858 | 1,356 |
| Persons Killed | 13 | 11 | 78 | 102 |
| Persons Injured | 404 | 278 | 1,399 | 2,081 |

Responsibility for Road Accidents

The next table shows the agency or type of road user believed responsible:

Responsibility for Road Traffic Accidents, 1966-67

| Responsibility Attributed to— | Accidents Involving Casualties | Persons Killed | Persons Injured |
|-------------------------------|--------------------------------|----------------|-----------------|
| Drivers of Motor Vehicles .. | 973 | 72 | 1,634 |
| Riders of Motor Cycles .. | 33 | 1 | 36 |
| Pedal Cyclists .. | 25 | 4 | 21 |
| Pedestrians .. | 209 | 17 | 204 |
| Passengers .. | 9 | 1 | 10 |
| Motor Vehicle Defects .. | 27 | .. | 37 |
| Motor Cycle Defects .. | 1 | .. | 1 |
| Pedal Cycle Defects .. | 3 | 1 | 3 |
| Animals .. | 4 | .. | 4 |
| Road Conditions .. | 42 | 3 | 80 |
| Weather .. | 14 | 3 | 24 |
| Parties not Involved (a) .. | 16 | .. | 27 |
| Other Causes .. | .. | .. | .. |
| Total | 1,356 | 102 | 2,081 |

(a) e.g. a car collides with another, after swerving to avoid a pedestrian who is not struck.

Cause of Accidents (Drivers of Motor Vehicles Responsible)

The next table analyses accidents for which drivers of motor vehicles were believed responsible:

**Road Traffic Accidents, Drivers of Motor Vehicles Responsible, 1966-67
Classification According to Cause**

| Principal Causes of Accidents for which Drivers of Motor Vehicles (excluding Motor Cycles) were Responsible | Accidents Involving Casualties | Persons Killed | Persons Injured |
|---|--------------------------------|----------------|-----------------|
| Excessive speed having regard to conditions | 214 | 36 | 374 |
| Not keeping to the left | 105 | 9 | 232 |
| Not giving right of way to other vehicles at intersection | 204 | 2 | 343 |
| Failing to make right-hand turn at intersection with due care | 55 | 5 | 90 |
| Intoxicated | 53 | 4 | 88 |
| Inexperienced, including inexperience with type of vehicle in use at time of accident | 25 | 2 | 46 |
| Inattentive driving | 146 | 4 | 220 |
| Reversing without care | 6 | .. | 7 |
| Overtaking on near-side or in the face of oncoming vehicle(s) or without enough clearance | 37 | 2 | 66 |
| Following other vehicle too closely | 26 | .. | 33 |
| Infirmity of driver | 7 | 2 | 9 |
| Driver asleep or drowsy | 20 | .. | 28 |
| Dazzled by lights of an approaching vehicle | 14 | .. | 23 |
| Failing to signal intention of turning or stopping, or giving incorrect signal | 2 | .. | 3 |
| Pulling or swinging out from kerb suddenly or without warning | 5 | 1 | 8 |
| Disregarding, misunderstanding or failing to observe traffic sign or signal of other driver | 24 | 1 | 34 |
| Crossing railway level crossing without due care | 6 | 2 | 5 |
| Hit-run drivers (n.e.i.) | 14 | 1 | 13 |
| Other causes | 10 | 1 | 12 |
| Total | 973 | 72 | 1,634 |

Causes of Accidents (Pedestrians Responsible)

The table that follows analyses road traffic accidents for which pedestrians were held responsible, in terms of the standard list of causes (after drivers of motor vehicles, pedestrians were considered responsible for the next most numerous group of accidents):

**Road Traffic Accidents, Pedestrians Responsible, 1966-67
Classification According to Cause**

| Principal Causes of Accidents for which Pedestrians were Responsible | Accidents Involving Casualties | Persons Killed | Persons Injured |
|---|--------------------------------|----------------|-----------------|
| Walking across roadway without due care | 98 | 14 | 91 |
| Running across roadway | 26 | 2 | 25 |
| Passing behind or in front of moving or stationary vehicle or object | 18 | .. | 19 |
| Stepping off kerb without due care | 6 | .. | 6 |
| Intoxicated | 8 | .. | 8 |
| Children under 7 years of age not under, or breaking away from, the supervision of an older person .. | 46 | 1 | 46 |
| Other causes | 7 | .. | 9 |
| Total | 209 | 17 | 204 |

Road Features and Accidents

The next table analyses all accidents according to location and shows the road features at the site. Most accidents occur on *straight roads*.

Features of Roadways on Which Accidents Occurred, 1966-67

| Features of Roadways | Accidents Involving Casualties | Persons Killed | Persons Injured |
|--------------------------------------|--------------------------------|----------------|-----------------|
| At Intersections—Controlled | 63 | 2 | 74 |
| Uncontrolled | 377 | 16 | 593 |
| Other than at Intersections— | | | |
| Straight Road | 526 | 44 | 726 |
| Bend or Curve | 321 | 36 | 577 |
| Bridge, Culvert or Causeway | 29 | 1 | 57 |
| Steep Hill | 13 | 1 | 23 |
| Top of Hill | 6 | .. | 10 |
| Railway Level Crossing | 10 | 2 | 9 |
| Other Locations | 11 | .. | 12 |
| Total | 1,356 | 102 | 2,081 |

Types of Road Users Killed or Injured

The following table analyses casualties:

Type of Road User Killed or Injured, 1966-67

| Type of Road User Involved | Killed | | | Injured | | |
|------------------------------|--------|---------|---------|---------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| Drivers of Motor Vehicles .. | 30 | 3 | 33 | 689 | 128 | 817 |
| Motor Cyclists .. | 2 | .. | 2 | 56 | 2 | 58 |
| Pedal Cyclists .. | 2 | 2 | 4 | 36 | 2 | 38 |
| Passengers (all types) .. | 27 | 11 | 38 | 464 | 459 | 923 |
| Pedestrians .. | 13 | 12 | 25 | 147 | 98 | 245 |
| Other Classes .. | .. | .. | .. | .. | .. | .. |
| Total .. | 74 | 28 | 102 | 1,392 | 689 | 2,081 |

Accidents and Holidays

The behaviour of traffic on the roads can be related to public holidays, and to holiday weekends. The next table analyses accidents in terms of this relationship (and calls attention, by an 'annual equivalent' column, to the difference in apparent risk associated with holidays):

**Road Traffic Accidents, 1966-67
Accidents in Relation to Holidays**

| Day of Occurrence | Days in 1966-67 | Accidents Involving Casualties | Persons Killed | | Persons Injured | |
|---|-----------------|--------------------------------|----------------|-----------------------|-----------------|-----------------------|
| | | | Number | Annual Equivalent (a) | Number | Annual Equivalent (a) |
| Public Holidays (not Saturdays or Sundays) .. . | 12 | 38 | 4 | 122 | 46 | 1,399 |
| Days during Holiday Week-ends (Saturdays and Sundays Only) .. . | 12 | 59 | 5 | 152 | 104 | 3,163 |
| Days before Holidays (or Holiday Week-ends) .. . | 9 | 31 | 2 | 81 | 55 | 2,231 |
| Days after Holidays (or Holiday Week-ends) .. . | 9 | 15 | 2 | 81 | 19 | 771 |
| Other Days .. . | 323 | 1,213 | 89 | 101 | 1,857 | 2,098 |
| Total .. . | 365 | 1,356 | 102 | 102 | 2,081 | 2,081 |

(a) The daily average rate has been assumed to persist for a year.

Age and Responsibility

As shown in a previous table, drivers of motor vehicles (excluding motor cycles) were believed responsible for 973 out of the 1,356 accidents involving casualties which were reported to the police during 1966-67. The following table analyses the age and sex of the drivers responsible for these 973 accidents, and also shows the casualties associated with the accidents.

**Road Traffic Accidents, 1966-67
Age and Sex of Drivers of Motor Vehicles Responsible**

| Age Group of Drivers Responsible (in Years) | Male Driver | | | Female Driver | | |
|---|--------------------------------|--------------------|---------------------|--------------------------------|--------------------|---------------------|
| | Accidents Involving Casualties | Persons Killed (a) | Persons Injured (a) | Accidents Involving Casualties | Persons Killed (a) | Persons Injured (a) |
| Under 21 .. . | 267 | 21 | 534 | 25 | .. . | 43 |
| 21-29 .. . | 278 | 20 | 444 | 31 | 2 | 53 |
| 30-39 .. . | 103 | 7 | 166 | 20 | .. . | 36 |
| 40-49 .. . | 98 | 9 | 139 | 18 | 1 | 24 |
| 50-59 .. . | 56 | 6 | 89 | 17 | 2 | 31 |
| 60 and over .. . | 40 | 3 | 54 | 6 | .. . | 8 |
| Not Stated .. . | 14 | 1 | 13 | .. . | .. . | .. . |
| Total .. . | 856 | 67 | 1,439 | 117 | 5 | 195 |

(a) The age groups relate to the driver who may, or may not be, included in the casualty figures.

Days of the Week on Which Accidents Occurred

The following table shows the day of the week on which accidents and casualties occurred:

Road Traffic Accidents, 1966-67
Day of Week of Occurrence

| Day of the Week | | Accidents Involving Casualties | Persons Killed | Persons Injured |
|-----------------|----|--------------------------------|----------------|-----------------|
| Monday | .. | 130 | 13 | 176 |
| Tuesday | .. | 126 | 8 | 177 |
| Wednesday | .. | 135 | 7 | 167 |
| Thursday | .. | 140 | 15 | 208 |
| Friday | .. | 229 | 11 | 338 |
| Saturday | .. | 374 | 32 | 606 |
| Sunday | .. | 222 | 16 | 409 |
| Total | .. | 1,356 | 102 | 2,081 |

Age and Sex of Road Users Killed

The next table shows the age and sex of the various types of road user killed:

Road Traffic Accidents, 1966-67
Age and Sex of Road Users Killed

| Age Group (in Years) | Type of Road User Killed | | | | | All Road Users |
|-------------------------|---------------------------------|-------------------|-------------------|------------------------------|-------------|----------------------|
| | Drivers of Motor Vehicles | Motor Cyclists | Pedal Cyclists | Passengers (All Types) | Pedestrians | |
| MALES | | | | | | |
| Under 7 | .. | .. | .. | 1 | .. | 2 |
| 7-16 | .. | 1 | .. | .. | 5 | 10 |
| 17-20 | .. | 7 | 1 | .. | 7 | 16 |
| 21-29 | .. | 9 | 1 | .. | 10 | 21 |
| 30-39 | .. | 3 | .. | .. | .. | 3 |
| 40-49 | .. | 6 | .. | .. | 2 | 12 |
| 50-59 | .. | 2 | .. | 1 | 2 | 6 |
| 60 and over | .. | 2 | .. | .. | .. | 4 |
| Not Stated | .. | .. | .. | .. | .. | .. |
| Total | .. | 30 | 2 | 2 | 27 | 74 |
| FEMALES | | | | | | |
| Under 7 | .. | .. | .. | .. | .. | .. |
| 7-16 | .. | .. | .. | 2 | 2 | 4 |
| 17-20 | .. | .. | .. | .. | 2 | 4 |
| 21-29 | .. | 1 | .. | .. | 1 | 2 |
| 30-39 | .. | .. | .. | .. | .. | 1 |
| 40-49 | .. | .. | .. | .. | 1 | 1 |
| 50-59 | .. | 2 | .. | .. | 1 | 5 |
| 60 and over | .. | .. | .. | .. | 7 | 11 |
| Not Stated | .. | .. | .. | .. | .. | .. |
| Total | .. | 3 | .. | 2 | 11 | 28 |

CIVIL AVIATION IN TASMANIA

Early Flights

Introduction

A significant event in the history of aviation in Tasmania occurred on 16 December 1919 when Lt Arthur Long of the Army Flying Corps crossed Bass Strait to Melbourne, taking six hours and making an emergency landing at Torquay on the way. Today's pure jets make the trip in under an hour. Shortly afterwards he started an aerial newspaper-carrying business between Hobart and Launceston.

In 1932, Mr L. Johnson began a Launceston-Flinders Is. service using a Desoutter and, in the same year, Victor and Ivan Holyman began a similar service with a De Havilland Fox Moth.

Pioneering of Melbourne Service

The Holyman brothers entered into partnership with Johnson to form Tasmanian Aerial Services Pty Ltd and, by 1933, the company was serving Smithton and King Is. By 1934, the company had become Holyman Airways Pty Ltd and was operating a Bass Strait service to Melbourne with DH 86 Dragon aircraft. Two aircraft were lost including the 'Miss Hobart' flown by Victor Holyman. In 1936, the 'Bungana', a DC2, was purchased and the era of reliable services across Bass Strait began.

Interstate Services

In 1936, Holyman Airways and Adelaide Airways Ltd merged to become Australian National Airways Ltd and the new company operated services between all States. Thus, a Tasmanian service had expanded to develop into an all-Australian service. In 1957, A.N.A. and Ansett amalgamated to form Ansett-A.N.A. Tasmania's interstate services are provided by Ansett-A.N.A. and by T.A.A. (the Australian government airline formed in 1946). Services to and from Melbourne are provided from Hobart, Launceston, Devonport, Wynyard, Flinders Is. and King Is.

Intra-State Services

Supplementary intra-state services using Beechcraft twin engine planes were commenced in May 1964 by T.A.A. As a result, regular air service connections link Hobart, Launceston, Devonport, Wynyard, Queenstown and Strahan. Then in November 1967, the Tasmanian Aero Club, with modern single engine aircraft, commenced fixed schedule commuter services linking Launceston with Coles Bay, St Helens, Devonport, Wynyard and Smithton.

Administration of The Air Navigation Act and Regulations in Tasmania

The *Air Navigation Act* 1920-66 (Federal) and associated regulations are administered for Tasmania by the Regional Director, Victoria-Tasmania region; the authority is the Civil Aviation Department. The department's more important functions include the provision and maintenance of government aerodromes, the licensing of aircraft and pilots, and a responsibility for supervising all aspects of air safety.

Classification of Flying Activities

Flying activities are classified by regulation into the following well defined categories:

(a) *Private Operations*: Private use of aircraft may be gauged by the fact that there were 235 licensed private pilots in the State in 1968.

(b) *Aerial Work Operations*: These operations refer to aircraft used for aerial survey; spotting; agriculture; advertising; flying training; ambulance

service; police or customs work; or for the carriage of goods owned by the pilot, the owner or the hirer for purposes of trade. Within Tasmania, there are four licensed flying training organisations and three aerial agricultural organisations carrying out most of the aerial work activities.

(c) *Charter Operations:* These refer to aircraft hired for passenger or freight movement, but not according to fixed schedules, or to and from fixed terminals. There were eight licensed charter operators based in Tasmania in 1968.

(d) *Commuter Operations:* These are charter operations to a fixed schedule, and to or from fixed terminals; they are authorised by an exemption granted under Air Navigation Regulations. Tasmania has one approved operator.

(e) *Regular Public Transport:* This refers to aircraft carrying freight and passengers according to fixed schedule, and operating on specified routes. All services of this kind are provided in Tasmania by T.A.A. and Ansett-A.N.A.

Tasmanian Aerodromes

The major aerodromes in Tasmania are owned and operated by the Commonwealth Government. The following describes both Commonwealth-owned and other aerodromes in use at 30 June 1968.

Hobart

Hobart airport, Commonwealth-owned, is eleven miles east of the city and ranks seventh in the volume of passengers handled at Australian terminals. It was completed in 1956 and then consisted of a sealed runway 5,800 feet by 200 feet. Extension and strengthening of the runway, taxiway and aprons to take Electra, DC9 and Boeing 727 aircraft at full weight was completed in 1966 (727s now operate pure jet services to Hobart). The airport is equipped with complex aviation and navigation aids.

The previous Hobart airport at neighbouring Cambridge is retained for flying training activities and light aircraft operations.

Launceston

This Commonwealth-owned airport, 10 miles south-east of Launceston, ranks next after Hobart in passenger volume but handles considerably more freight. Improvements include a lengthening of the runway and the completion of a new terminal building and maintenance depot. This was the drome from which Holyman and Johnson flew their Bass Strait services in the early 1930s and which the R.A.A.F. used for training in World War II.

The area control centre provides air traffic control for the whole of Tasmania via repeater stations, south on Mt Wellington and north on Mt Barrow. The airport also is used for flying training and other light aircraft charter and aerial work operations; a grassed area is available for these activities.

Devonport

The Devonport Commonwealth-owned aerodrome was originally constructed in the early 1930s. In 1950 it was developed to handle DC3, DC4 and Viscount type aircraft and is now active with regular public transport, aerial work, charter, flying training and private operations. The aerodrome is equipped with night lighting, a non-directional beacon, a visual-aural range and distance measuring equipment.

Wynyard

The Wynyard Commonwealth-owned aerodrome has one sealed runway 4,400 feet and one 3,900 feet long for regular public transport operations, charter, aerial work and private operations. The aerodrome has radio navigation equipment and night lighting.

King Island

King Island airport is a Commonwealth-owned aerodrome situated four miles north-east of Currie. It has three gravel runways, night lighting, and radio navigational equipment.

Flinders Island

Flinders Island Commonwealth-owned aerodrome is situated three miles north of Whitemark. It has three grassed landing strips strengthened with some gravel and is equipped with aircraft navigation aids and radio. The 050° and 132° runways were resheeted in June 1968.

Smithton

Situated two miles west of Smithton, this licensed aerodrome, owned by the Transport Commission, was originally developed in the 1930s for Bass Strait services. It has a sealed gravel runway 5,300 feet long and 150 feet wide and is used for itinerant charter and private flights. Smithton is not equipped with radio navigation aids or aircraft communications facilities.

Bridport

The Bridport licensed aerodrome was developed for the purpose of air-freighting local produce, mainly fish, direct to Victoria. The landing strip consists of a grassed area 4,000 feet long by 400 feet wide. It is owned by the North Eastern Aerodrome Company Pty Ltd and currently serves itinerant charter, aerial work and private operations.

St. Helens

St Helens is a licensed aerodrome owned and operated by the Municipality of Portland. It was the first aerodrome constructed in Tasmania under the Commonwealth Aerodrome Local Ownership Plan and was officially opened in April 1963. A grassed strip 3,900 feet long and 300 feet wide is of sufficient dimension to permit operations by DC₃ and F27 type aircraft. The aerodrome currently serves the charter, aerial work and private operation requirements for the area and has a non-directional beacon for instrument navigation.

Queenstown

The Municipality of Queenstown provided an authorised landing area for light aircraft in 1937. In 1963, work was commenced on the construction of a runway suitable for the operation of DC₃ type aircraft at Queenstown under the Local Ownership Plan; it was opened on 17 April 1966. With the completion of this aerodrome, Queenstown was included in the intra-state services provided by T.A.A. Beechcraft aircraft.

Strahan

The port of Strahan serves the West Coast of Tasmania and, in particular, the Queenstown and Zeehan areas. The aerodrome at Strahan was constructed under the Commonwealth Aerodrome Local Ownership Plan and is owned by the Municipality of Strahan. It was opened for regular public transport operations in 1964, has a non-directional beacon, and is included on the T.A.A. Beechcraft route.

Passenger, Freight and Aircraft Movements

The following table has been compiled to show the volume of activity at the State's principal airports; the following definitions apply:

Passengers: The figures for fare-paying passengers at each airport are the sum of embarkations and disembarkations.

Freight: The figures are the sum (in tons of 2,000 lb) of freight (including mail) loaded and unloaded at each airport.

Aircraft Movements: A take-off is one movement, a landing another.

Principal Airports**Passengers, Freight and Aircraft Movements (a)**

| Year | Hobart | Launceston | Devonport | Wynyard | King Is. | Flinders Is. |
|----------------------|--------|------------|-----------|---------|----------|--------------|
| PASSENGERS ('000) | | | | | | |
| 1964-65 | 158 | 152 | 45 | 35 | 15 | 11 |
| 1965-66 | 167 | 155 | 48 | 41 | 15 | 11 |
| 1966-67 | 178 | 159 | 55 | 52 | 16 | 12 |
| FREIGHT (SHORT TONS) | | | | | | |
| 1964-65 | 5,800 | 8,486 | 734 | 601 | 446 | 784 |
| 1965-66 | 5,753 | 8,676 | 772 | 681 | 460 | 595 |
| 1966-67 | 6,454 | 8,362 | 743 | 880 | 455 | 496 |
| AIRCRAFT MOVEMENTS | | | | | | |
| 1964-65 | 8,303 | 12,600 | 3,436 | 3,627 | 1,384 | 1,060 |
| 1965-66 | 7,747 | 11,780 | 3,452 | 3,295 | 1,371 | 1,019 |
| 1966-67 | 8,013 | 10,819 | 3,950 | 3,945 | 1,299 | 885 |

(a) See definitions prefacing table.

Comparison with Principal Australian Airports

The next table shows the volume of activity at the principal Australian airports in terms of the number of passengers, freight and aircraft movements. Details of international services have been excluded so that comparisons are purely in terms of domestic traffic (international services are centred on Melbourne, Sydney, Brisbane and Perth).

**Australia—Principal Airports
Passengers, Freight and Aircraft Movements (a), 1966-67**

| Airport | Passengers | Freight (Short Tons) | Aircraft Movements |
|--------------|------------|-------------------------|-----------------------|
| Sydney | 2,919,219 | 50,336 | 72,545 |
| Essendon (b) | 1,927,466 | 43,041 | 51,078 |
| Brisbane | 888,648 | 16,708 | 26,205 |
| Adelaide | 770,408 | 12,022 | 19,311 |
| Perth | 309,450 | 7,277 | 9,641 |
| Canberra | 341,058 | 2,757 | 15,426 |
| Hobart | 178,314 | 6,454 | 8,013 |
| Launceston | 159,402 | 8,362 | 10,819 |

(a) See definitions prefacing this section.

(b) Airport for Melbourne. The airport name 'Melbourne' is reserved for the new international airport now being constructed.

POSTAL AND TELECOMMUNICATION SERVICES

Development of Communication Services

General

The Commonwealth Post Master General's Department provides and controls postal facilities and telecommunication services in Tasmania. Basically the Australian Post Office consists of two services, *postal* and *telecommunications*, supported by engineering, supply, accounts, personnel and administration establishments.

The Postal Service

In 1816, the first long-distance mail service in Australia was started between Hobart and Launceston, the carrier walking both ways and taking a fortnight for the round trip. Today, all forms of transport are used to convey the mails, the number of individual postal articles handled in Tasmania in 1966-67 amounting to 66 million. (More than 2,600 million articles were handled by the Post Office throughout Australia.)

All letter class mail, within the dimensions of *Post Haste*, to and from Tasmania is carried by air, free of airmail surcharge, whilst the bulk of 'Other Article' mail is received and despatched daily by ship. To help speed the handling of mail, the Post Office has introduced *Postcode*. This is a four-figure postal location number designed to take full advantage of electronic mail coding equipment. It also helps greatly in the manual sorting of mail. An electronic mail exchange has been installed in Sydney and this type of exchange will be extended progressively to other State capitals from 1968-69. Automatic reading of numbers is being studied as a possible further development in letter sorting.

Telecommunications

Hobart and Launceston were linked by a telegraph line in 1857 and two years later a Bass Strait cable was in operation, only to fail in 1861. By 1869 a second cable was laid and communication with overseas countries became possible in 1872 when the Overland Telegraph was established between Adelaide and Darwin.

The first telephone line in Tasmania linked Hobart and Mt Nelson signal station in 1880, both Hobart and Launceston having exchanges by 1883. However, no link with Victoria or overseas countries was provided until 1936.

Telephones: The Post Office is working towards a highly automated telephone system so that subscribers may make direct long-distance calls anywhere in Australia by simply dialling the required number. This system is called *Subscriber Trunk Dialling* (S.T.D.); it avoids the delays associated with manually-operated exchanges and charges are based on actual time used. S.T.D. has been introduced to many centres and is being rapidly extended.

Telegraph: The teleprinter exchange (TELEX) had only one Tasmanian subscriber in 1957 but 92 were connected by 30 June 1967. The TELEX service is fully automatic and subscribers can now contact each other without an exchange operator's assistance. TELEX subscribers also have automatic access to subscribers in 100 overseas countries.

Construction: The Broadband Network of the Post Office carries previously unthought of volumes of traffic, including telephone calls, telegraph and telex messages, picturegrams and radio and television programmes. This huge national network already covers 6,700 miles and by 1971, the main routes will be Cairns-Brisbane-Sydney-Canberra-Melbourne-Hobart and Melbourne-Adelaide-Perth-Carnarvon (W.A.). Spurs will lead out to virtually

every major centre in all States and there are links with the *Seacom* and *Compac* cables connecting Australia with overseas countries; there is also a link to the Overseas Telecommunications Commission's earth satellite station at Moree.

Tasmania has been joined to the Broadband Network by a micro-wave radio link terminating in Hobart. This link forms part of Tasmania's internal communication system which is being developed for S.T.D. Burnie and Launceston have been linked by a co-axial cable. Radio links will be provided with other centres to extend the S.T.D. facility. In recent years, the Post Office in Tasmania has had a policy of installing underground cables which have higher traffic densities. This policy is illustrated by the following table:

Cable and Aerial Wire Mileages at 30 June

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|--|---------|---------|---------|---------|---------|
| Aerial Wire, Single Wire Mileage | 60,970 | 60,186 | 58,480 | 57,046 | 55,403 |
| Conductors in Cable, Single Wire Mileage (a) .. . | 346,951 | 392,821 | 438,012 | 518,003 | 575,073 |
| Co-axial Cable, Tube Miles (a) .. . | .. | .. | .. | 366 | 437 |

(a) Laid underground.

Employment

The next table analyses the total number employed by the Department in Tasmania. Employment categories are:

Temporary Staff: These are engaged by the Public Service Board and their employment beyond one year requires the Board's further approval.

Exempt Staff: These are persons exempt from the provisions of the *Public Service Act*. The Department is not required to obtain the approval of the Commonwealth Public Service Board before employing them, or to seek Board approval to continue their employment beyond one year. The Public Service Board's approval for the creation of positions is, of course, still necessary (the Board approves the 'offices' but the Department engages the 'officers').

Permanent Staff: These are members of the Commonwealth Public Service.

Postmaster-General's Department—Persons Employed

| Particulars | Number at 30 June 1967 | Year | Total Number at 30 June |
|--|------------------------------|---------|----------------------------|
| Full-time Employees (a)— | | | |
| Permanent Officers .. . | 2,593 | 1955 .. | 3,677 |
| Temporary and Exempt Officers (b) .. . | 978 | 1956 .. | 3,783 |
| Total .. . | 3,571 | 1957 .. | 3,942 |
| | | 1958 .. | 3,957 |
| | | 1959 .. | 4,012 |
| | | 1960 .. | 3,995 |
| | | 1961 .. | 4,066 |
| Others— | | 1962 .. | 4,077 |
| Non-official Postmasters and Staff .. | 423 | 1963 .. | 4,144 |
| Telephone Office Keepers .. . | 13 | 1964 .. | 4,184 |
| Mail Contractors (c) .. . | 202 | 1965 .. | 4,169 |
| Part-time Employees .. . | 38 | 1966 .. | 4,254 |
| Total .. . | 676 | 1967 .. | 4,247 |
| Grand Total .. . | 4,247 | | |

(a) Full-time employees are those directly under the control of the Department. The remainder shown as 'Others' provide services, which may or may not occupy their full time, under contract or in return for payments appropriate to work performed.

(b) Exempt staff are persons exempt from the provisions of the *Public Service Act* (Federal).

(c) Includes persons employed to drive vehicles.

Revenue and Expenditure

The table that follows gives details of the financial operations of the Department in Tasmania. Three points of explanation are necessary: (i) financial statistics are compiled with a dissection between operations in the six States and in the central office (located in Melbourne); an adequate picture of the financial results of a year's trading can be obtained only from the combined Australian accounts of the Department; (ii) in the expenditure table appear items of a capital nature but the source of funds for this work is not included in the revenue table; (iii) the Department is administered as a business undertaking and pays interest to the Commonwealth Treasury on all capital; interest is not brought to account in the table.

Postmaster-General's Department—Financial Operations in Tasmania
(**\$'000**)

| Particulars | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|--|---------|---------|---------|---------|---------|
| REVENUE | | | | | |
| Postal | 2,342 | 2,466 | 2,603 | 2,685 | 2,779 |
| Telegraph | 362 | 388 | 415 | 471 | 509 |
| Telephone | 5,210 | 5,688 | 6,709 | 7,209 | 7,883 |
| Other | 14 | 24 | 13 | 9 | 38 |
| Total | 7,928 | 8,566 | 9,740 | 10,374 | 11,209 |
| EXPENDITURE | | | | | |
| From Ordinary Votes— | | | | | |
| Salaries and Payments in Nature of Salary | 3,606 | 3,718 | 3,957 | 4,181 | 4,690 |
| Administration | 382 | 492 | 525 | 578 | 544 |
| Stores and Material | 134 | 112 | 124 | 158 | 219 |
| Mail Services | 266 | 266 | 264 | 271 | 281 |
| Engineering Services (Other than Capital Works) .. | 2,570 | 2,896 | 3,173 | 3,303 | 3,532 |
| Total | 6,958 | 7,484 | 8,044 | 8,491 | 9,267 |
| Rent, Repairs and Maintenance | 118 | 92 | 126 | 131 | 143 |
| Capital Works and Services (a) .. | 4,628 | 5,084 | 6,225 | 7,629 | 7,998 |
| Other | .. | .. | .. | 16 | 26 |
| Grand Total .. | 11,704 | 12,660 | 14,395 | 16,267 | 17,434 |

(a) Source of funds for this expenditure not shown under 'Revenue'.

Operations of the Department

Apart from its obvious role of providing communication facilities through various media, the Department provides a money order and postal order service and also acts as an agent for a number of other instrumentalities in transactions which include: savings bank deposits and withdrawals; payment of pensions and allowances; War Service Homes repayments; sale of State duty stamps, etc.

The next section deals with the principal activities of the Department in Tasmania.

Postal Services

The following table shows the volume of mail handled in Tasmania, and also monetary transactions carried out through use of Post Office *money orders* and *postal orders*.

Money Orders: An order may be obtained for sums up to \$80 on a single order. Orders for overseas are limited to \$20, and a remitter may send only one such order in any week.

Postal Orders: A system of *postal orders* replaced a system of *postal notes* from 1 June 1966. Postal orders may be purchased in denominations up to \$8; they provide security since they can be traced and also be 'crossed' like a bank cheque. Duplicates can be issued in certain circumstances.

Postal Services

| Particulars | Unit | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 |
|---------------------------------|--------|---------|---------|---------|---------|---------|
| Post Offices—Official .. . | no. | 54 | 54 | 54 | 54 | 55 |
| Non-official .. . | no. | 448 | 446 | 440 | 433 | 421 |
| Postal Traffic (a)— | | | | | | |
| Letters, Postcards, etc... .. . | '000 | 45,203 | 47,452 | 49,108 | 51,710 | 55,594 |
| Newspapers, Books, etc. .. . | '000 | 9,182 | 9,340 | 9,549 | 10,309 | 10,531 |
| Parcels .. . | '000 | 237 | 232 | 263 | 288 | 302 |
| Registered Articles .. . | '000 | 379 | 371 | 371 | 375 | 379 |
| Money Orders— | | | | | | |
| Issued—No. .. . | '000 | 307 | 342 | 366 | 353 | 364 |
| Value .. . | \$'000 | 7,932 | 8,548 | 9,356 | 11,576 | 12,690 |
| Paid —No. .. . | '000 | 242 | 253 | 263 | 274 | 298 |
| Value .. . | \$'000 | 7,266 | 7,852 | 8,768 | 10,902 | 12,042 |
| Postal Orders (b)— | | | | | | |
| Issued—No. .. . | '000 | 394 | 388 | 368 | 356 | 344 |
| Value .. . | \$'000 | 384 | 390 | 378 | 384 | 467 |
| Paid —No. .. . | '000 | 247 | 208 | 206 | 206 | 208 |
| Value .. . | \$'000 | 240 | 212 | 212 | 213 | 268 |

(a) Number of distinct articles handled.

(b) Prior to 1 June 1966, the figures refer to a similar system using *postal notes*.

Telephone and Telegraph Services

The next table describes telephone and telegraph services in Tasmania:

Telecommunications

| Particulars | Unit | 1964-65 | 1965-66 | 1966-67 |
|--|--------|---------|---------|---------|
| Telephone— | | | | |
| Automatic Service Subscribers .. . | '000 | 47 | 50 | 53 |
| Manual Service Subscribers .. . | '000 | 13 | 12 | 12 |
| Subscribers with access to S.T.D. .. . | '000 | 6 | 6 | (a) 7 |
| Automatic Exchanges .. . | no. | 131 | 137 | 140 |
| Manual Exchanges .. . | no. | 234 | 212 | 191 |
| Value of Calls Made— | | | | |
| Local (including S.T.D.) .. . | \$'000 | 1,539 | 1,632 | 2,186 |
| Trunk .. . | \$'000 | 2,229 | 2,388 | 2,791 |
| Telegraph— | | | | |
| Phonograms Lodged .. . | '000 | 288 | 317 | 336 |
| All Telegrams Lodged (b) .. . | '000 | 572 | 610 | 640 |

(a) This figure rose to 40,000 by 1 November 1968.

(b) Includes telegrams lodged by telephone (i.e. phonograms).

**1966 CENSUS
STATISTICAL DIVISIONS
OF
TASMANIA**

SCALE
MILES 0 10 20 30 MILES

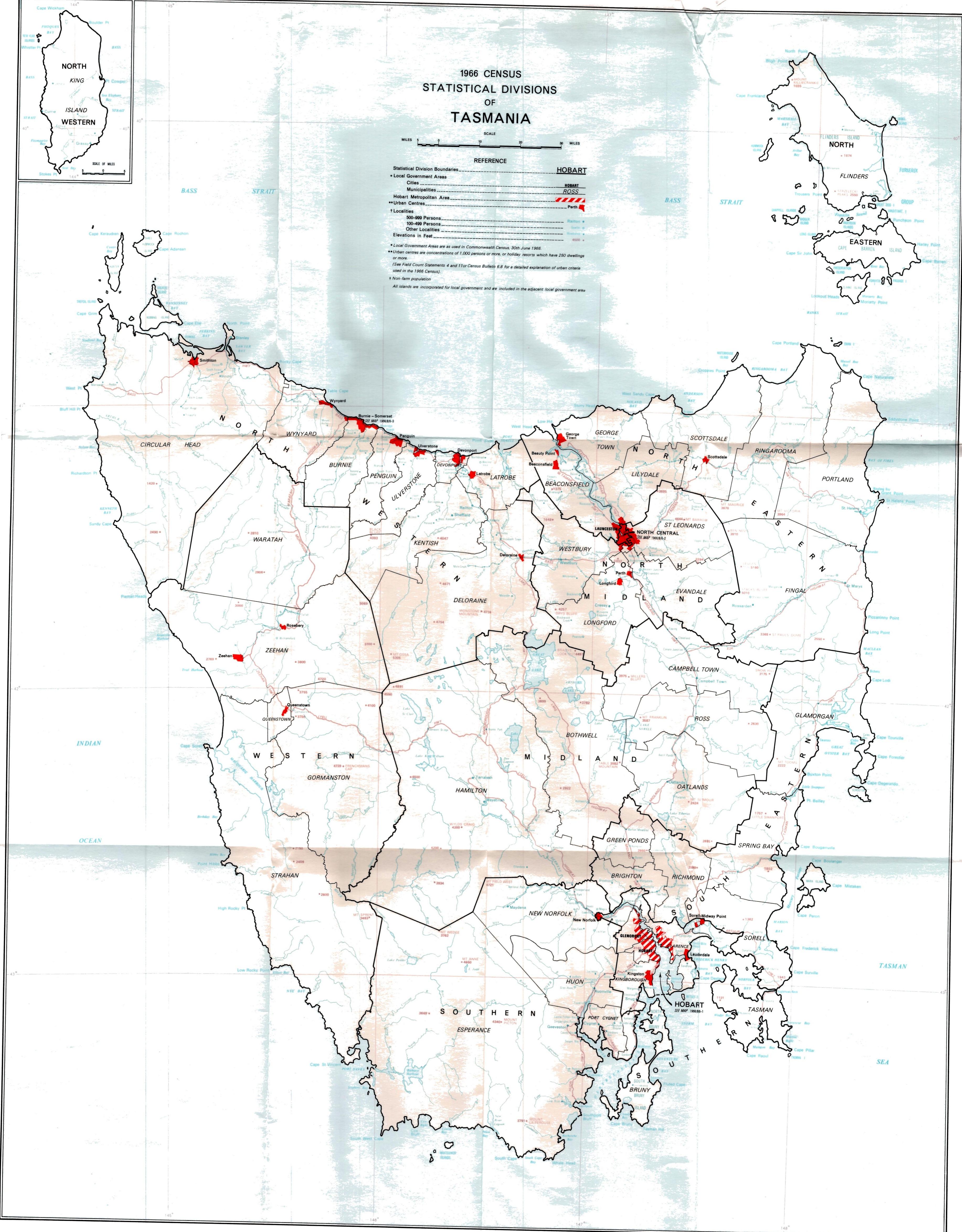
REFERENCE

HOBART

ROSS

Perth

- Statistical Division Boundaries
 - * Local Government Areas
 - Cities
 - Municipalities
 - Hobart Metropolitan Area
 - **Urban Centres
 - † Localities
 - 500-999 Persons
 - 100-499 Persons
 - Other Localities
 - Elevations in Feet
- (See Field Count Statements 4 and 11 or Census Bulletin 6.8 for a detailed explanation of urban criteria used in the 1966 Census.)
- † Non-farm population
- All islands are incorporated for local government and are included in the adjacent local government area.



Telephones: The following table further analyses the telephone services in Tasmania, showing the dissection between *business* and *residential*:

Telephone Services at 30 June: Operating Services

| Particulars | Unit | 1963 | 1964 | 1965 | 1966 | 1967 |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Services in Operation— | | | | | | |
| Business | '000 | 29.7 | 29.9 | 30.6 | 31.4 | 32.4 |
| Residential | '000 | 23.3 | 26.3 | 27.4 | 29.5 | 31.3 |
| Public Telephones | '000 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| Instruments in Operation | '000 | 74.8 | 78.0 | 82.4 | 86.1 | 88.9 |

RADIOCOMMUNICATION

Stations in Tasmania

The section which follows relates to radiocommunication (radio telegraph and radio telephone) stations only; particulars of broadcasting stations and of broadcast listeners' licences are specifically excluded and are dealt with in a subsequent section.

The following table shows the number of radiocommunication stations and their categories over a number of years:

Number of Authorised Radiocommunication Stations at 30 June
(Two-way Services)

| Particulars | 1963 | 1964 | 1965 | 1966 | 1967 |
|----------------------------|-------|-------|-------|-------|-------|
| Fixed Stations (a)— | | | | | |
| Aeronautical | 7 | 9 | 9 | 8 | 8 |
| Outpost (b) | 16 | 15 | 17 | 16 | 19 |
| Other | 30 | 36 | 38 | 42 | 62 |
| Total | 53 | 60 | 64 | 66 | 89 |
| Land Stations (c)— | | | | | |
| Aeronautical | 7 | 8 | 8 | 7 | 7 |
| Base Stations for— | | | | | |
| Land Mobile Services .. | 164 | 202 | 243 | 266 | 303 |
| Harbour Mobile Services .. | 9 | 5 | 6 | 13 | 13 |
| Coast (d) | 21 | 21 | 21 | 22 | 22 |
| Special Experimental .. | 11 | 12 | 16 | 14 | 17 |
| Total | 212 | 248 | 294 | 322 | 362 |
| Mobile Stations— | | | | | |
| Aeronautical | 28 | 29 | 32 | 24 | 26 |
| Land Mobile Services .. | 1,037 | 1,404 | 1,650 | 1,945 | 2,385 |
| Harbour Mobile Services .. | 38 | 41 | 50 | 59 | 68 |
| Outpost | 37 | 45 | 35 | 58 | 67 |
| Ships | 210 | 240 | 279 | 303 | 370 |
| Total | 1,350 | 1,759 | 2,046 | 2,389 | 2,916 |
| Amateur Stations | 152 | 160 | 170 | 174 | 194 |
| Grand Total | 1,767 | 2,227 | 2,574 | 2,951 | 3,561 |

(a) For exchange of radio messages with other similar stations.

(b) Stations established in remote localities for communication with control stations, e.g. the lighthouse service.

(c) For exchange of radio messages with mobile stations.

(d) Land stations for communication with ocean-going vessels.

To operate a radio transmitter as previously described, it is necessary to obtain a licence from the Postmaster General's Department which is responsible for frequency allocation and for certain inspectorial functions. In the previous table, the term 'authorised' refers to equipment licensed by this authority.

Some examples of the use to which this form of communication is put, include (i) the police networks for intra-state signals and for link with police cars; (ii) coastal radio service to ships at sea (the same service provides links with outpost transmitters in the State's remote areas, e.g. Port Davey); (iii) army network with direct link to Melbourne; (iv) fire brigade network operating in the area controlled by each authority; (v) fishermen's network with base stations at Triabunna, Dunalley, Bicheno, St Helens, Lady Barron, Currie, Stanley and Strahan; (vi) lighthouse network (the source of weather reports at remote coastal stations); (vii) special purpose networks of various authorities, e.g. Hydro-Electric Commission, Forestry Commission, ambulance services, etc; (viii) marine boards' V.H.F. networks (on single international frequency) for ship-to-shore link with overseas vessels; (ix) the 'mutton birders' network—operating from Whitemark on Flinders Island when the 'birders', in the season, inhabit the otherwise deserted Bass Strait islands; (x) mine networks, e.g. central control linked to outposts engaged in blasting; (xi) freighting services and taxi networks, etc.

BROADCASTING AND TELEVISION

General

In Australia, broadcasting and television services are provided both from commercial and Commonwealth Government transmitters; the *Federal Broadcasting and Television Act 1942-67* governs the operation of services designated the National Broadcasting Service, the National Television Service, the Commercial Broadcasting Service and the Commercial Television Service.

The National Services

The national services (both broadcasting and television) are provided by the Australian Broadcasting Commission which has sole responsibility for programme material; the actual transmitters are operated by the Postmaster-General's Department. Owners of broadcast and television receivers are required to pay annual licence fees to the Postmaster-General's Department, and this revenue is used to help pay the cost of operating the national services.

The Commercial Services

The commercial services (both broadcasting and television) are operated under licences granted by the Postmaster General, who, in exercising his licensing powers, takes into consideration recommendations made by the Australian Broadcasting Control Board. The revenue of the commercial services is obtained from advertising. Licence fees, payable to the Postmaster General's Department, are charged on a sliding scale from 1 per cent to 4 per cent of gross advertising revenue.

The Australian Broadcasting Control Board

Although the commercial services are operated as private enterprise undertakings, the Board exercises control in certain fields, by prescribing programme standards, laying down rules for advertising time and advertising

content, determining hours of operation, and by establishing and supervising operational standards. The Board allocates frequencies for transmission and investigates applications for the establishment of stations. In all these functions, it works under the ministerial jurisdiction of the Postmaster General.

Hours of Transmission

At 30 June 1968, eight commercial broadcasting stations in Tasmania were operating; two in the Hobart area averaging 133 hours weekly; six elsewhere in the State averaging 118 hours weekly. The corresponding figures for the two commercial television stations were 66.25 hours weekly in the Hobart area, and 67.50 hours in the Launceston area.

Programme Standards, Commercial Stations

Broadcasting Standards

Licensees are required to provide programmes in accordance with standards determined by the Australian Broadcasting Control Board. These standards contain special provisions dealing with the timing of family and children's programmes, and the number, duration and suitability of advertisements, e.g. in a sponsored programme, advertising per 15 minutes of programme is limited to 3.0 minutes.

Also under the *Broadcasting and Television Act 1942-67*, licensees are required to broadcast religious services, or other matter of a religious nature during such periods as the Board determines. The minimum time set by the Board is one hour per week but stations are providing, free of charge, as much as two hours weekly for religious broadcasts. The Act also provides that licensees shall, as far as possible, use the services of Australians in the production and presentation of programmes, and that not less than five per cent of the time occupied by the programmes of stations in the broadcasting of music shall be devoted to works of Australian composers.

Television Standards and Australian Content

The Board has prescribed standards for commercial television and these relate to programme content; timing of programmes (e.g. content when children are most likely to be watching); the number, content and duration of advertisements. Officers of the Board monitor programmes and investigate viewers' complaints with regard to programme content.

Since July 1967, all metropolitan commercial stations (and all country commercial stations operational for three years) have been required to transmit Australian-originated programmes for 50 per cent of transmission time. This Australian material must be featured in peak viewing time (7.00 pm to 9.30 pm) for at least 12 hours in each four weeks; it must appear for at least two hours per week between 7.00 pm and 9.00 pm. Australian drama must be featured for at least two hours per month. Special credit is given in calculating Australian programme percentages for drama written by Australians; local production of overseas dramas; Australian-designed children's programmes. Limited 'Australian credit' is allowed for programmes produced in the British Commonwealth.

Category of Television Programmes

The following table shows, as varying proportions of transmission time, the types of programme televised in the Hobart area:

Category of Television Programmes—Hobart, 1967-68 (a)
Proportion of Transmission Time

| Programme Category | Hobart Commercial Programmes | Hobart National and Commercial Programmes Combined |
|---------------------------------|------------------------------|--|
| | per cent | per cent |
| Drama | 48.8 | 40.0 |
| Light Entertainment | 19.7 | 14.4 |
| Sport | 5.4 | 6.4 |
| News | 7.5 | 6.8 |
| 'Family' | 8.0 | 7.2 |
| Information | 1.4 | 2.8 |
| Current Affairs | 5.5 | 8.3 |
| The Arts | .. | 0.6 |
| Education | 3.7 | 13.5 |
| Total | 100.0 | 100.0 |

(a) Source: Australian Broadcasting Control Board.

Film Classification

Films imported for televising are classified as suitable for unrestricted viewing (G), not suitable for children (A) and suitable for adults only (AO). Classifications are advertised before showing.

Television Stations in Operation

The next table gives details of the television stations in operation:

Television Stations in Operation, 30 June 1968

| Call Sign and Channel | Area | Transmitter Location | Height Above Sea Level—Top of Aerial (ft) | Hours of Service (Weekly) |
|-----------------------|--------------|----------------------|---|---------------------------|
| NATIONAL | | | | |
| ABT 2 .. | Hobart | Mt Wellington | 4,410 | 82.00 |
| ABNT 3 (a) .. | NE. Tasmania | Mt Barrow | 4,780 | 82.00 |
| COMMERCIAL | | | | |
| TVT 6 .. | Hobart | Mt Wellington | 4,340 | 66.25 |
| TNT 9 .. | NE. Tasmania | Mt Barrow | 4,654 | 67.50 |

(a) Transmits programmes originating from ABT2.

Relay of Television Programmes from Other States

Viewers in Tasmania do not normally see events in other Australian States as they happen; usually the event is filmed, and the film then flown across Bass Strait. Until late 1966, special events or programmes outside Tasmania which were seen simultaneously in Tasmania, were transmitted through a special relay station on Flinders Island. In 1967 a direct television programme from Canada, 'Expo 67', was beamed via a satellite to Australia and relayed across Bass Strait on the new broadband radio link from Victoria. The link has provision for the direct transmission of television programmes in either direction. The chain of communication involved is Victoria-Flinders Is.-

Waterhouse-Mt Dismal-Launceston-Cleveland-Mt Seymour-Chimney Pot Hill (in Hobart). Programmes received direct from other parts of Australia or overseas, via the broadband link, are becoming more common. Examples of 1968 events seen simultaneously in Tasmania were: Washington race riots; President Johnson's decision not to stand for another term; the Kennedy assassination; Japanese performers (in a two-way Japanese-Australian exchange); the Carlton victory in the V.F.L. final (football).

Microwave Links and Intra-State Relays

The prime sources of programmes in Hobart are the commercial and national studios which are linked to their Mt Wellington transmitters (TVT6 and ABT₂) by micro-wave links; the commercial studio in Launceston feeds programmes to its Mt Barrow transmitter (TNT9) by the same method. As there is no national studio at Launceston, the transmitter on Mt Barrow (ABNT₃) relays the Hobart national programmes through the broadband radio link. This service is also available to commercial stations.

Television Translator Stations

Tasmania, due to its terrain, has areas where television reception direct from the Mt Wellington or Mt Barrow transmitters is either difficult or impossible. To provide good reception in such areas, translator stations have been installed as follows:

Television Translator Stations—Progress of Installation, June 1968

| Area Served | Parent Station | | Local Channel | |
|------------------------|----------------|------------|---------------|------------|
| | National | Commercial | National | Commercial |
| Queenstown-Zeehan | ABT2 | TVT6 | 4 | 8 |
| Rosebery-Renison Bell | ABT2 | TVT6 | 1 | 10 |
| Tarona | .. | .. | .. | 8 |
| Swansea-Bicheno | .. | .. | .. | 8 |
| Smithton-Stanley | .. | .. | .. | .. |
| Gowrie Park | .. | .. | 1 | 6 |
| South Launceston | .. | .. | .. | 1 |
| St Marys-Fingal Valley | ABNT3 | TNT9 | 1 | 11 |
| | .. | TNT9 | .. | 9 |

In the above table, ABNT₃, transmitting from Mt Barrow, has been excluded although it receives its programmes by broad band link from ABT₂. The northern transmitter is high-powered and serves a large region whereas the translator stations listed in the table are low-powered and designed to serve small areas. The St Marys-Fingal translator station will commence sending out ABNT₃ programmes in the second half of 1968.

De-icing

In view of the temperature and weather conditions existing at Mt Wellington and Mt Barrow, precautions have been necessary to prevent the formation of ice on the aerial elements and the resultant danger of damage from falling ice.

In the case of the aerial at the Hobart national station ABT₂ (Mt Wellington), the aerial elements are heated by mains power which is switched on automatically by means of a thermostat when the temperature falls below freezing point. In the case of the Hobart commercial station (TVT6, Mt Wellington), the junctions between the coaxial feeder lines and the aerial elements are protected by small plastic covers. In the case of the Launceston

(Mt Barrow) commercial station TNT9 and national station ABNT₃, the whole of the aerial is covered by a plastic cylinder. The lower part of the ABNT₃ mast is metal-sheathed for 190 feet to ward off ice which falls from the plastic cylinder and which could damage the mast.

Broadcasting Stations in Operation

The following table gives details of the broadcasting stations in operation:

Broadcasting Stations in Operation at 30 June 1968

| Call Sign | Classification | Location | Hours of Service (weekly) |
|------------------|----------------|------------|------------------------------|
| 7ZL | National | Hobart | 125.50 |
| 7ZR | National | Hobart | 125.75 |
| 7NT (a) | National | Launceston | 125.75 |
| 7QN (a) | National | Queenstown | 125.75 |
| 7HO | Commercial | Hobart | 133.00 |
| 7HT | Commercial | Hobart | 129.50 |
| 7AD | Commercial | Devonport | 111.50 |
| 7BU | Commercial | Burnie | 113.50 |
| 7EX | Commercial | Launceston | 163.00 |
| 7LA | Commercial | Launceston | 126.00 |
| 7QT | Commercial | Queenstown | 91.50 |
| 7SD | Commercial | Scottsdale | 100.50 |

(a) Transmits, in the main, programmes originating from 7ZL and 7ZR.

On the map, Tasmania looks a small island and, if it were flat, reception of programmes from all 12 stations would probably be possible at any given point. Because of hills and mountains, this does not occur, certainly not by day, and reception of mainland stations is often better than that of the more distant local stations.

Listeners' and Viewers' Licences

Revenue from Licences

The revenue from licensing is shown in couplets with listeners' fees first and viewers' fees second (in \$'000): 1961-62, 370 and 276; 1962-63, 358 and 426; 1963-64, 356 and 510. The combined revenue from both types of licence and from combined licences was: 1964-65, \$1,005,000; 1965-66, \$1,046,951; 1966-67, \$1,127,127; 1967-68, \$1,157,139.

Details of Rates

In general, all persons owning a radio or television set (or both) are required to pay an annual licence fee. Terms used in the next table are defined as follows:

Pensioner Rate: While concession rates apply to certain classes of pensioners, licences free of charge may be granted to blind persons over 16 years of age, or to a school.

Hirer's Licence: Each broadcast or television receiver let out on hire, except those under hire purchase contracts, must be covered by a hirer's licence held by the person or firm from whom the receiver is hired.

Lodging House Licence: Owners of hotels, motels, guest houses, furnished premises, etc. are required to hold a licence for every broadcast or television receiver provided for the use of guests, lodgers and tenants.

The schedule of fees is as follows:

Broadcast Listeners' and Television Viewers' Licences—Rates from 1 October 1968

| Licence | | Ordinary Rate (\$) | Pensioner Rate (\$) |
|--|----------|-----------------------|------------------------|
| FOR BROADCAST RECEIVER | | | |
| Listener's or Hirer's Licence | .. .. | (a) 6.50 | 1.00 |
| Lodging House Licence | .. .. .. | (a) 6.50 | .. |
| FOR TELEVISION RECEIVER | | | |
| Viewer's or Hirer's Licence | .. .. .. | (b) 14.00 | 3.00 |
| Lodging House Licence | .. .. .. | (b) 14.00 | .. |
| COMBINED LICENCE (FOR BROADCAST AND TELEVISION RECEIVER) | | | |
| Combined Receiving Licence | .. .. | (c) 20.00 | 4.00 |

(a) Previously \$5.50.

(b) Previously \$12.00.

(c) Previously \$17.00.

Licences in Force

The following table shows the number of listeners' and viewers' licences in force in Tasmania from 1925:

Licences in Force—Listeners' and Viewers' Licences from 1925

| Date | Broadcast Listeners' | Television Viewers' | Combined (a) |
|--------------|----------------------|---------------------|--------------|
| 30 June 1925 | 567 | .. | .. |
| 1930 | 6,048 | .. | .. |
| 1940 | 42,191 | .. | .. |
| 1950 | 64,369 | .. | .. |
| 1960 | 78,900 | 4,662 | .. |
| 1964 | 74,159 | 55,305 | .. |
| 1965 (a) | 62,299 | 47,779 | 10,718 |
| 1966 (a) | 28,733 | 6,283 | 56,050 |
| 1967 (a) | 21,917 | 7,240 | 60,405 |
| 1968 (a) | 14,811 | 7,469 | 61,752 |

(a) The combined receiving licence was introduced in April 1965, to be held by those persons owning both a broadcast and a television receiver at the same address. Separate licences are still available for persons owning only one type of receiver.

Licences and Receivers

The number of receivers in use, both for broadcasting and television, exceeds the number of licences, since the householder or members of his family may operate any number of receivers normally kept at the address shown on the licence. (This concession does not apply to those required to hold lodging house licences.)

Although television transmission did not begin in Tasmania before the first half of 1960 (with ABT2 and TVT6 in Hobart), a few licences were held

in the northern areas of the State as early as 1957; the owners of these receivers were able to tune to programmes originating in Victoria but the quality of reception was very variable due to the distance.

Zones

The rates for broadcast listeners' licences quoted in a previous table are those applicable to Zone 1 which includes areas within 250 miles of specified broadcasting stations. Zone 2 is defined as the remainder of Australia and persons living in this zone can obtain broadcast listeners' licences at a reduced rate. All Tasmanians live in Zone 1 and pay Zone 1 rates.

Appendix A

PUBLICATION OF TASMANIAN STATISTICS

HOW TO OBTAIN CURRENT PUBLICATIONS

General

The Tasmanian Office of the Commonwealth Bureau of Census and Statistics is located at *Kirksway House, corner of Kirksway Place and Montpelier Retreat, Hobart*. Requests for statistical publications can be made by calling at this address; by phoning *Hobart 22741*; or by writing to the *Deputy Commonwealth Statistician, G.P.O. Box 66A, Hobart, 7001*.

Service to the public is not restricted to the distribution of publications. If no publication adequately covers the subject matter of the enquiry, then a special extraction of the data required may be undertaken if they are available from the basic records held in the office.

Historical

The first Government Statistician in Tasmania was E. C. Nowell who took up duty in 1867. Before this appointment, statistics had been published in the official 'Blue Books' compiled by the Colonial Secretary during the period 1822-1855, and in volumes entitled *Statistics of Tasmania* after self-government was granted.

By the *Commonwealth and State Statistical Agreement Act 1924*, the Tasmanian Parliament ratified an agreement for the establishment of an office of the Commonwealth Bureau of Census and Statistics, such office to meet the statistical needs of the State Government; provision was made for the Deputy Commonwealth Statistician, a Commonwealth officer, to hold at the discretion of the State Government, the title of State Statistician. The first officer appointed in this way was L. F. Giblin, M.C., D.S.O., who had previously been the State Government Statistician. (It was not till the late 1950s that similar arrangements were made in the other Australian States.)

Statistics from 1804

In the Archives Office of Tasmania, the following series are available:

- (i) Official 'Blue Books' for period 1822-1855.
- (ii) *Statistical Account of Van Diemen's Land or Tasmania, 1804 to 1854* compiled by Hugh M. Hull (Office of the Colonial Secretary).
- (iii) *Statistics of Tasmania*—annual publications from 1856 to 1922-23.

(iv) *Statistics of the State of Tasmania*—annual publications commencing 1923-24 and still being produced annually. (Copies of these volumes are held at the University Library, the State Library in Hobart and the Public Library in Launceston; volumes covering 1964-65 or 1965-66 can be purchased from the Tasmanian Office of the Commonwealth Bureau of Census and Statistics.) The 1966-67 volume will be available by June 1969.

Copies of publications listed from (ii) to (iv) inclusive are available for inspection at the Tasmanian Office of the Bureau.

Current Publications of the Tasmanian Office

The Tasmanian Office of the Commonwealth Bureau of Census and Statistics is engaged in a continuous publication programme, the statistics appearing in either printed or mimeographed form.

In general, the mimeographed publications (which are obtainable free of charge) have been compiled to make information available at the earliest possible moment. Printed publications contain information in very much greater detail but, because of the inevitable delay imposed by manuscript preparation and the printing process, may be issued a year later than the period to which they refer. (The printed *Monthly Summary of Statistics* is an exception and the 'lag' is no more than about two months.)

Printed Publications

The following table sets out details of all printed publications issued by the Tasmanian Office:

Printed Publications Issued by the Tasmanian Office

| Title | Frequency | For issue in 1969 | Price | |
|--|-----------|-------------------------|------------------------------|------------------------------|
| | | | Excluding Postage (\$) | Including Postage (\$) |
| Tasmanian Year Book | Annual | 1969 | 1.00 | 1.45 |
| Monthly Summary of Statistics | Monthly | (a) | 0.15 | 0.20 |
| Pocket Year Book of Tasmania | Annual | 1969 | 0.15 | 0.24 |
| Statistics of the State of Tasmania— | | | | |
| Demography | Annual | 1967 | 0.60 | 0.73 |
| Trade and Shipping | Annual | 1966-67 | 0.40 | 0.49 |
| Primary Industries and Meteorology | Annual | 1966-67 | 0.70 | 0.83 |
| Secondary Industries and Building | Annual | 1966-67 | 0.60 | 0.73 |
| Finance (b) | Annual | 1966-67 | 0.60 | 0.73 |
| Social | Annual | 1967 | 0.20 | 0.29 |
| Statistical Summary | Irregular | (c) | 0.40 | 0.49 |
| Bound Volume of all above Bulletins | Annual | 1966-67 | 2.50 | 2.83 |

(a) Published one to two months after the most recent month for which figures are available.

(b) Incorporates Public Finance, Local Government Finance and Private Finance.

(c) Irregular; last in 1962-63.

Mimeographed Publications

The next table gives details of all mimeographs produced by the Tasmanian Office:

**Mimeographed Publications Issued by the Tasmanian Office
(Free of Charge)**

| Subject Matter | Title of Publication | Frequency |
|---|--|---|
| Alcoholic Liquor | Wholesale Sales and Stocks of Wine and Spirits; Consumption of Alcoholic Liquor | Annual |
| Building | Building Approvals Building Statistics | Monthly Quarterly |
| Insurance | Fire, Marine and General Insurance | Annual |
| Population | Population in Local Government Areas .. Vital and Population Statistics .. | Annual Quarterly |
| Production (General) | Production Statistics Meat Production | Monthly Annual |
| Production (Primary) | Apple Production Crops Dairy Industry Hop Production Livestock Livestock and Wool Production (Preliminary Figures) Number of Farms, Farm Population, Employment, Irrigation and Machinery Used .. Potato Production Poultry Slaughtering and Chicken Hatching .. Tractors on Rural Holdings Value of Production (Primary) Wool Production Statistics | Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Triennial Annual Annual |
| Production (Secondary) | Factory Production Sawmill and Plywood Mill Statistics | Annual Monthly |
| Statistics of Individual Municipalities | Compendium of Municipal Statistics .. | Irregular (Last Issue, 1968) |
| Trade | Trade (Overseas) Trade (Overseas and Interstate) by Sea and by Air | Annual Annual |
| Transport and Traffic | Motor Vehicle Registrations Road Traffic Accidents | Monthly Monthly |

TASMANIAN STATISTICS IN CENTRAL OFFICE PUBLICATIONS

General

Although publications of the Tasmanian Office of the Bureau of Census and Statistics make available statistics on many aspects of the State, there are some fields in which additional or more frequent information is available in publications of the Central Office.

How to Obtain Central Office Publications

Central Office printed publications may be *bought* direct from the Government Printer, Canberra and from the Tasmanian Office of the Bureau of Census and Statistics; they may also be ordered from leading booksellers in the principal centres. A standing order may be placed with the Government Printer, Canberra, with whom a credit account may be arranged.

In addition to printed publications for which a charge is made, there are other Central Office publications (mimeographed, etc.) which may be obtained free of charge from the Commonwealth Statistician, Canberra.

Subject Matter of Central Office Publications

The fields of statistical enquiry covered in Central Office publications are very wide and the best way to obtain a guide to the material available is to write to: *The Commonwealth Statistician, Canberra* and ask for *Publications of the Commonwealth Bureau of Census and Statistics*. Copies of this guide are also available at the Tasmanian Office of the Bureau. This free 40-page guide lists the publications of the Central Office and of the State Offices; in addition, it contains a subject index.

Readers with interest in a particular field are invited to call at, or write to, the Tasmanian Office which is in a position to give advice on what publications are available.

Listing of all Central Office publications is beyond the scope of this Appendix but attention is called to the *Population Census* (1961 and 1966 Census information); the *Official Year Book of the Commonwealth of Australia*; *Secondary Industries Bulletin*; *Demography Bulletin*; *Finance Bulletin*; *Labour Report*; *National Income and Expenditure*; *Overseas Trade Bulletin*; *Primary Industries Bulletins*; *Transport and Communication Bulletin*. In addition to annual publications, there is a very wide range of information released monthly, quarterly and half-yearly.

Appendix B

CHRONOLOGY

THE YEAR 1968

Record to 23 October

Rainbow II, winner on handicap, Sydney-Hobart race. St John's Park hospital to be extended. Search for Mr Holt's body given up. Rain-making experiments made over H.E.C. catchment areas. Registrar appointed, Advanced College of Education. Hobart residents served notice to clear fire hazards. Senator Gorton became Australian Prime Minister. Royal Hobart Hospital acquired State's first artificial kidney machine. Burnie municipal abattoir lost licence; other rural abattoirs below standard. National postal strike (mail van drivers' case). Mt Lyell Company introduced superannuation scheme for wage-earners. Repulse H.E.C. dam on Lower Derwent completed. Japanese inspected ports for possible woodchip industry. New Vice-Chancellor of University (Sir George Cartland). First H.E.C. emergency gas turbine arrived for installation in north. Casino promoters put proposal before State Government. Asthma survey of schoolchildren commenced. Launceston Port Authority let tender for removal of part of Garden island. New post, State Fire Control Officer, advertised. Bad bushfires in north-west and north-east. Federal Arbitration Commission, in second metal trades work value decision, reduced amounts granted by 30 per cent; restoration to be considered later in year. Federal scheme announced for reconstruction of dairy industry. State Government undertook to subsidise processors of William Bartlett pears. Mr Gorton won by-election and entered Federal House of Representatives. Savage River iron ore project officially opened. E.Z. Co. announced plans for Burnie sulphuric acid plant (1,200 tons daily capacity). Supreme Court held valid the report of the Municipal Commission. Contract let for H.E.C. Bell Bay thermal plant. Mt Cleveland tin mine, first worked in 1908, officially re-opened. Woodchip industry study indicated south suitable. St Leonards council dismissed and administrator appointed. Rowallan power station, first of Mersey-Forth chain, began operating. H.E.C. water storages at record low level. *California Maru* cleared Port Latta with cargo of iron ore pellets. Railways increased charges. Contract (\$5.6m) let for H.E.C. village at Strathgordon; part of south-west power scheme. New airstrip opened at Bicheno. Launceston tug *Wybia* holed in Tamar. Good rains; industrial power rationing to be relaxed to 25 per cent formula from 1 July when other restrictions would cease. Batman Bridge across lower Tamar opened. Federal Government announced subsidies for apples and pears exported to U.K. and other countries which devalued their currency in 1967. Indian Prime Minister, Mrs Ghandi, visited Australia. Gale damage in north-west with 110 mph recorded. Ceilcote Pty Ltd opened Devonport factory to make corrosion resistant materials. Avoca kangaroo shoot aroused national criticism. Metropolitan Transport Trust to replace trolley-buses with motor buses for \$0.5m. Launceston General Hospital to be extended at cost of \$1.9m. Legislative Council set up select committee to examine daylight saving. Warrane to be site of new Government printery. Bureau of Statistics installed powerful computer for Federal and State use. Naracoopa Rutile Ltd began construction of \$0.75m King Island plant. Tasmanian Public Service Tribunal ruled women teachers entitled to

equal pay (by 1972 in stages as prescribed in State Act). W.A. at own request ceased to be claimant State for Special Grants; Tasmania now only claimant. On Legislative Council's initiative, Parliament legislated for government Green Coach Line to cease operations by November 1968. H.E.C. ordered second 'mole' for tunnels. Beach sand mining project announced for Devonport. Stanley wharf area endangered by rock-fall from the Nut. Royal Commission reported favourably on fluoridation. *Wakahata Maru* delayed by big seas at Port Latta. Transport Commission purchased Danish ship *Birthe Andreason* for coastal services. Strahan Marine Board began dredging of Macquarie Harbour entrance. Mt Lyell blister copper shipped to Port Kembla (N.S.W.). H.E.C. office block for erection at cost of \$3.5m. Open road speed limit of 65 mph imposed. State receipt tax of 1 cent in each \$10 imposed (but wages and salaries exempt). Industrial power rationing to cease from 1 October. Daylight saving to operate in 1968-69 for shortened period. Arbitration Commission increased male and female adult award rates by \$1.35 per week in national wage case. Public meeting held in protest against Wrest Point casino proposal; bomb threats against two members of State Parliament. Re-count of votes to fill vacancy created in Assembly by death of Mr John Steer, pioneer of Tasmanian daylight saving. Government Green Coach Line to be acquired by private operator. Federal Commissioner, Trade Practices, investigated hotel-keeper's allegation that his local supply of draught had been cut off because he sold Melbourne draught. H.E.C. storages, down to 14 per cent in March, up to 54 per cent in October.

(See also Appendix C for details of other 1968 information.)

Appendix C

LATER INFORMATION

CHAPTER 2

Daylight Saving

Introduction in 1967-68

In 1967, the Tasmanian Parliament passed an Act to introduce an hour's daylight saving in the six months, October 1967 to March 1968. The aim was, in part, to conserve electricity at a time when drought had depleted the highland storages used for power generation.

Continuation in 1968-69

In 1968, the lower house of the Parliament passed a bill to introduce daylight saving for a period of five months; the upper house, after a select committee had reported on the matter, favoured four months. Eventually a compromise was made, the affected period being from 27 October 1968 to 9 March 1969 (both Sundays), i.e. a period of about 4.5 months. The second period of daylight saving was introduced to suit public convenience and was unrelated to any power emergency.

Logic of Daylight Saving

The following table has been compiled to show sunrise, sunset, and hours of daylight in Hobart on selected dates; continental notation (24-hour clock) has been used and all times are Eastern Standard.

Length of Day in Hobart (a), 1968

| Date | Sunrise (24-hour Clock) | Sunset (24-hour Clock) | Hours and Minutes of Daylight | Date | Sunrise (24-hour Clock) | Sunset (24-hour Clock) | Hours and Minutes of Daylight |
|----------------|-------------------------------|------------------------------|-------------------------------------|-----------------|-------------------------------|------------------------------|-------------------------------------|
| 1 Jan. . . | 04-35 | 19-54 | 15-19 | 1 July | 07-44 | 16-46 | 09-02 |
| 1 Feb. . . | 05-13 | 19-36 | 14-23 | 1 Aug. | 07-23 | 17-12 | 09-49 |
| 1 Mar. . . | 05-50 | 18-56 | 13-06 | 1 Sept. | 06-38 | 17-45 | 11-07 |
| 21 Mar. (b) | 06-14 | 18-21 | 12-07 | 22 Sept. (b) | 06-01 | 18-08 | 12-07 |
| 1 April.. | 06-27 | 18-02 | 11-45 | 1 Oct. | 05-45 | 18-18 | 12-33 |
| 1 May .. | 07-01 | 17-14 | 10-13 | 1 Nov. | 04-54 | 18-56 | 14-02 |
| 1 June .. | 07-32 | 16-44 | 09-12 | 1 Dec. | 04-27 | 19-34 | 15-07 |
| 21 June (c) | 07-44 | 16-43 | 08-59 | 21 Dec. (c) | 04-28 | 19-51 | 15-23 |

(a) Source: Bureau of Meteorology.

(b) Equinox.

(c) Extreme.

From the table, it will be seen that the main months affected by the legislation (November through to February) experience sunrise before 06-00 E.S.T. giving an ample margin for advancing the working day by one hour. The designation for local time in the daylight saving period is T.S.T. (Tasmanian Summer Time), set one hour in advance of E.S.T.

Report of Select Committee

The Select Committee of the Legislative Council enquired into the subject of daylight saving and came to these conclusions: (i) that the trial period in 1967-68 had conferred little *economic* benefit on the State; (ii) that the cinema industry had suffered substantial losses; (iii) that six months of daylight saving is a real hardship for some sections of the rural community; (iv) that daylight saving provides additional leisure time for a very large section of the work force at no financial cost to the community; (v) that a shorter period of daylight saving would be acceptable; (vi) that a further trial period is warranted; (vii) that the health and work of primary school children, particularly those who travel long distances, may be affected by daylight saving; (viii) that the voluntary alteration of industry and business working hours to achieve 'daylight saving' is not practical; (ix) that it would be an advantage if the A.C.T. and the eastern States adopted a uniform policy of daylight saving. The recommendation of the Committee was that, in 1968-69, daylight saving operate from 3 November to 2 March (both Sundays); eventually the 1968-69 compromise with the lower house resulted in an extra fortnight being added, i.e. daylight saving to operate from 27 October to 9 March.

CHAPTER 3**Electoral Boundaries***Australia*

In July 1968, the Electoral Commissioners submitted their recommendations for changed electoral boundaries, including the abolition of some electorates and the creation of new ones. The changed representation in the Federal House of Representatives resulting from these recommendations is: N.S.W., 45 seats (loses one); Victoria, 34 (gains one); Queensland, 18; S.A., 12 (gains one); W.A., 9; Tasmania, 5; N.T. and A.C.T., one each; total seats, 125 (an increase of one).

Tasmania

The Electoral Commissioners' recommendations for Tasmania are summarised in the following table:

Recommended Boundary Changes, Tasmanian Federal Electorates, July 1968

| Electorate | Enrolments at 31 May 1968 | | Nature of Change Recommended |
|-------------------|---------------------------|---------------------------|---|
| | In Previous Boundaries | In Recommended Boundaries | |
| Bass | 40,139 | 40,139 | No change |
| Braddon | 41,803 | 41,803 | No change |
| Denison | 35,353 | 42,917 | Increased from parts of Franklin |
| Franklin | 49,026 | 37,203 | Parts transferred to Denison and Wilmot |
| Wilmot | 37,103 | 41,362 | Increased from parts of Franklin |
| Total | 203,424 | 203,424 | |

Apparent Inequality: The low enrolment for Franklin (37,203) in the recommendation is based on the fact that it includes areas with the fastest growth rates; hence, the inequality will tend to disappear.

Denison: Increased by extending southern boundary in Sandy Bay south to Blackmans Bay and taking in Fern Tree; also by extending northern boundary in Glenorchy on the mountain side of the railway to Humphreys Rivulet.

These changes involve transfers from *Franklin*.

Franklin: Decreased as specified in *Denison* and *Wilmet*.

Wilmet: Increased by including the subdivisions of Richmond, Sorell, Spring Bay and Tasman (the previous boundary on the east coast extended only as far south as Little Swanport). These changes involve transfers from *Franklin*.

State Electoral Boundaries

It should be noted that electoral districts for the Federal House of Representatives are identical with those for the State House of Assembly, a common roll being used for each type of election. Assuming that the Commonwealth Parliament accepts the Electoral Commissioners' recommendations, it follows that the House of Assembly election of May 1969 will be conducted with changed electoral boundaries.

CHAPTER 5

Population at 30 June 1968

At 30 June 1968, the population of Tasmania was estimated to be 382,030 persons. The sections below show the estimated distribution of this population: (i) in local government areas and statistical divisions; (ii) in the principal urban areas (other urban and rural sections excluded).

(i) Estimated Population of Tasmania in Local Government Areas and Statistical Divisions at 30 June 1968

Hobart 52,810; Glenorchy 40,900; Clarence 31,610; Brighton 2,250; Glamorgan 1,140; Green Ponds 860; Richmond 1,660; Sorell 3,440; Spring Bay 1,230; Bruny 410; Esperance 3,830; Huon 5,200; Kingborough 10,300; New Norfolk 10,930; Port Cygnet 2,490; Tasman 1,170.

Statistical Division Totals: Hobart Div. 144,850; SE. Div. 7,140; S. Div. 18,240.
Launceston 36,880.

Total North Central Division 36,880.

Burnie 19,450; Circular Head 8,140; Deloraine 5,130; Devonport 17,920; Kentish 6,320; King Island 2,380; Latrobe 4,860; Penguin 4,850; Ulverstone 10,780; Wynyard 10,300.

Total NW. Division 90,130.

Beaconsfield 10,530; Fingal 3,630; Flinders 1,240; George Town 5,470; Lilydale 8,100; Portland 1,450; Ringarooma 2,820; Scottsdale 3,770.

Total NE. Division 37,010.

Evandale 1,520; Longford 5,170; St Leonards 14,860; Westbury 5,070.

Total N. Midland Division 26,620.

Bothwell 1,000; Campbell Town 1,640; Hamilton 4,250; Oatlands 2,410; Ross 640.

Total Midland Division 9,940.

Gormanston 540; Queenstown 4,520; Strahan 470; Waratah 1,380; Zeehan 3,660.

Total Western Division 10,570.

Migratory 650.

Total Tasmania 382,030.

(ii) Estimated Population of Principal Urban Areas in Tasmania at 30 June 1968

Hobart Metropolitan Area 123,500; Urban Launceston 61,870; Urban Burnie-Somerset 19,050; Urban Devonport 15,910; Urban Ulverstone 7,270; Urban New Norfolk 6,340.

CHAPTER 9

Status of Privy Council

As from 1 September 1968, Federal legislation passed earlier in the year will take effect and make the High Court of Australia the final court of appeal in all cases involving Commonwealth law (i.e. in litigation involving Commonwealth matters instituted after 31 August, there will be no right of approach

to the Privy Council). Appeals from the Supreme Court of Tasmania, either directly or after a decision of the High Court, may still be taken to the Privy Council but only if Commonwealth jurisdiction is not involved.

CHAPTER 10

Federal Metal Trades Work Value Award, August 1968

In August 1968, the Commonwealth Arbitration Commission decided that the 30 per cent segment deferred in its February award should be paid in the first pay period on or after 21 August. In the case of the fitter, this involved an increase of \$2.20, and fully restored the quantum of increase granted late in 1967, i.e. \$7.40.

The restoration to 100 per cent was announced a fortnight before the opening of the national wage case on 20 August.

National Wage Case, 1968

The national wage case commenced on 20 August 1968. The applicant metal trade unions, mounting the test claim as usual, asked for restoration of the basic wage concept (and therefore of the margin concept). In July 1966, the Sydney basic wage in Federal awards had been fixed at \$33.50 and in June 1967, the concept of a Federal basic wage was abolished; in their August 1968 case, the applicant unions asked for the Sydney basic wage to be fixed at \$44.60.

As an alternative, if the Commission again insisted on retaining the total wage concept, the applicant unions asked for an increase of \$7.30 in all wages, including the standard minimum rate of \$38.25 (Sydney) or \$38.15 (Hobart).

The award of the Commission was handed down on 4 October 1968. The Commission (i) rejected the claim for restoration of the basic wage; (ii) increased adult male and female award rates by \$1.35 per week. The effect in Hobart was to make the standard minimum rate \$39.50.

CHAPTER 12

Shipping at Tasmanian Ports

New Definitions (1966-67)

In Chapter 12, the shipping statistics end at 1965-66, a new series beginning in 1966-67. The following principles apply to the new series: (i) vessels of 200 tons and under are excluded; (ii) a vessel is shown as entering or leaving a port, irrespective of the type of journey (in the old series, only the first port of entry into a State and the last port of departure from the same State were taken into account). No meaningful total can now be obtained for a State by adding port totals, the total of its ports' entries or its ports' clearances being subject to double, triple, etc. counting because the same vessel may have called at a number of ports within the one State. On the other hand, the new series more faithfully records the volume of shipping passing through individual ports.

Vessels Entering Tasmanian Ports

The next table has been compiled in accordance with the new definitions previously stated and shows the number and tonnage of vessels entering Tasmanian ports in 1966-67:

Vessels Entered Tasmanian Ports (a), 1966-67

| Port of Entry and Type of Service (b) | Vessels Entered | | | | | |
|---------------------------------------|-----------------|-----------|------------|----------|-------|-----------|
| | In Cargo | | In Ballast | | Total | |
| | No. | Net Tons | No. | Net Tons | No. | Net Tons |
| Hobart— | | | | | | |
| Overseas direct | 46 | 181,763 | 7 | 31,844 | 53 | 213,607 |
| Overseas via other States .. | 55 | 242,013 | .. | .. | 55 | 242,013 |
| Overseas via port in same State .. | 11 | 64,123 | .. | .. | 11 | 64,123 |
| Interstate direct | 345 | 879,535 | 47 | 64,158 | 392 | 943,693 |
| Interstate via port in same State .. | 4 | 25,274 | .. | .. | 4 | 25,274 |
| Intrastate | 41 | 81,682 | 3 | 1,972 | 44 | 83,654 |
| Total Hobart | 502 | 1,474,390 | 57 | 97,974 | 559 | 1,572,364 |
| Burnie— | | | | | | |
| Overseas direct | 11 | 27,433 | 2 | 10,674 | 13 | 38,107 |
| Overseas via other State .. | 59 | 265,287 | .. | .. | 59 | 265,287 |
| Overseas via port in same State .. | 10 | 33,133 | .. | .. | 10 | 33,133 |
| Interstate direct | 336 | 560,880 | 8 | 9,020 | 344 | 569,900 |
| Interstate via port in same State .. | 71 | 401,284 | .. | .. | 71 | 401,284 |
| Intrastate | 16 | 50,875 | 23 | 30,067 | 39 | 80,942 |
| Total Burnie | 503 | 1,338,892 | 33 | 49,761 | 536 | 1,388,653 |
| Devonport— | | | | | | |
| Overseas direct | 2 | 1,912 | 1 | 4,418 | 3 | 6,330 |
| Overseas via other State .. | 10 | 43,677 | .. | .. | 10 | 43,677 |
| Overseas via port in same State .. | 2 | 3,895 | .. | .. | 2 | 3,895 |
| Interstate direct | 311 | 537,601 | 5 | 7,056 | 316 | 544,657 |
| Interstate via port in same State .. | 13 | 71,927 | .. | .. | 13 | 71,927 |
| Intrastate | 17 | 44,406 | 1 | 785 | 18 | 45,191 |
| Total Devonport | 355 | 703,418 | 7 | 12,259 | 362 | 715,677 |
| Launceston— | | | | | | |
| Overseas direct | 16 | 54,589 | 2 | 8,352 | 18 | 62,941 |
| Overseas via other State .. | 41 | 169,961 | .. | .. | 41 | 169,961 |
| Overseas via port in same State .. | 13 | 46,873 | .. | .. | 13 | 46,873 |
| Interstate direct | 299 | 912,852 | 5 | 14,534 | 304 | 927,386 |
| Interstate via port in same State .. | 28 | 52,209 | .. | .. | 28 | 52,209 |
| Intrastate | 25 | 107,730 | 1 | 584 | 26 | 108,314 |
| Total Launceston | 422 | 1,344,214 | 8 | 23,470 | 430 | 1,367,684 |
| Stanley— | | | | | | |
| Interstate direct | 15 | 11,775 | .. | .. | 15 | 11,775 |
| Intrastate | 9 | 6,543 | 1 | 785 | 10 | 7,328 |
| Total Stanley | 24 | 18,318 | 1 | 785 | 25 | 19,103 |
| Strahan— | | | | | | |
| Interstate direct | 26 | 20,244 | 40 | 30,884 | 66 | 51,128 |
| Intrastate | 2 | 1,308 | 3 | 2,324 | 5 | 3,632 |
| Total Strahan | 28 | 21,552 | 43 | 33,208 | 71 | 54,760 |

(a) See 'New Definitions (1966-67)' for method of compilation.

(b) Type of service ('Overseas via other States', etc.) is defined in Chapter 12, under 'Shipping at Tasmanian Ports'.

State or Country of Registration

The following table has been compiled to show the Australian State, or the country of registration, of the shipping entering and leaving Tasmanian ports. The number and tonnage of entries and departures has been arrived at in the manner described under 'New Definitions (1966-67)'; for this reason, it is impossible to show a meaningful figure for the State as a whole.

**Australian State or Country of Registration of Shipping at
Tasmanian Ports (a), 1966-67**

| Australian State or Country of Registration | Vessels Entered (a) | | Vessels Departed | |
|--|---------------------|-----------|------------------|-----------|
| | No. | Net Tons | No. | Net Tons |
| New South Wales | 44 | 211,017 | 44 | 211,017 |
| Victoria | 771 | 1,332,339 | 770 | 1,332,039 |
| Queensland | 26 | 56,073 | 26 | 56,073 |
| South Australia | 9 | 39,808 | 9 | 39,808 |
| Western Australia | 4 | 23,564 | 4 | 23,564 |
| Tasmania | 602 | 1,329,276 | 605 | 1,332,558 |
| Denmark | 14 | 28,795 | 14 | 28,795 |
| France | 2 | 540 | 2 | 540 |
| Germany, Federal Republic of | 13 | 51,058 | 13 | 51,058 |
| Greece | 8 | 48,013 | 8 | 48,013 |
| Hong Kong | 6 | 21,433 | 6 | 21,433 |
| India | 21 | 78,324 | 21 | 78,324 |
| Italy | 1 | 15,764 | 1 | 15,764 |
| Japan | 36 | 135,499 | 35 | 131,081 |
| Liberia | 5 | 17,350 | 5 | 17,350 |
| Mexico | 4 | 21,752 | 4 | 21,752 |
| Netherlands | 71 | 180,015 | 70 | 175,981 |
| New Zealand | 39 | 67,086 | 38 | 65,158 |
| Norway | 32 | 160,734 | 31 | 157,242 |
| Poland | 4 | 13,730 | 4 | 13,730 |
| Sweden | 39 | 158,494 | 38 | 155,100 |
| United Kingdom | 215 | 1,043,820 | 215 | 1,046,246 |
| United States of America | 17 | 83,757 | 17 | 83,757 |

(a) The total of the columns under 'Vessels Entered' is the same for the final two columns of the previous table.

Entries by First Port of Call

In 1966-67, the number and net tonnage of vessels entering Tasmanian ports, classified by type of service, were: *overseas direct*, 87 (321,000 tons); *overseas via other States*, 165 (721,000 tons); *interstate direct*, 1,437 (3,048,000 tons); *total*, 1,689 (4,090,000 tons). This *unduplicated* total represents the volume of shipping making voyages to the State in 1966-67.

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